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THE NATURE OF SELECTED PROGRAM DIMENSIONS IN TWO GRADE ONE SETTINGS

BY

KATHLEEN NEUFELD

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

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submitted by Kathleen Neufeld

in partial fulfilment of the requirements for the degree

of Master of Education

.....

(Supervisor)

.....

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Date: August 16, 1985

To Don

without whose love, support, and encouragement

this work would not have been possible.

and

to Carolyn, Brian, and Gordon

for their patience and understanding.

ABSTRACT

Over the past thirty years educators and researchers have become increasingly concerned about the experiences of young children in school. High failure rates as well as social and emotional adjustment problems have been the focus of numerous studies. This study was designed to examine the nature of time spent in physical, social, and emotional program dimensions of two grade one classrooms to determine how developmental needs of young children were being met in schools. The Philosophy, Goals and Program Dimensions (Alberta Education, 1984) of Early Childhood Services provided the basis for the study. A more outgoing and a less outgoing boy and girl were selected in each of two classrooms whose environmental descriptors were based on the classrooms described in Articulation Linkages (Pain, 1984). Observations of classroom behaviour regarding the target pupils were recorded at two minute intervals for half hour periods interspersed throughout the day. Each target pupil was observed for one day resulting in 480 minutes of observations in each classroom. The data were then categorized according to physical, social, and emotional program dimensions.

The teacher in Study A had pupil desks arranged in rows, followed teachers' guidebooks in sequential order, taught the pupils as a total group, and planned, delivered, and evaluated the program. The teacher in Study B utilized learning centres, based instruction on the interests and needs of individual pupils, used teachers' guidebooks as references, and involved pupils and parents in the planning, delivery,

and evaluation of the program. The classrooms were self-contained and both teachers were rec nded as excellent teachers by the Early Childhood consultant o eir school board.

The data gathered through classroom observations were analyzed to describe the nature of the time spent in the physical, social, and emotional program dimensions. The time pupils spent in closed structure pencil/paper activities, receiving information, and reading books was similar in both classrooms. The pupils in Study A listened to the teacher read stories more often and spent more time giving information and answering questions while the pupils in Study B spent more time in open structure pencil/paper activities, using manipulatives, sharing ideas and materials, participating in group activities such as drama, singing, and discussions, receiving help, cleaning up, and walking to new locations. The most significant difference between the two classrooms was in the area of additional social and emotional activities. The pupils in Study A spent 55% of their time in interactions not related to expected learning, and in conflict and wait time while the pupils in Study B spent 8.3% of their time in these aspects of classroom life.

The use of time, space, and materials appeared to have a direct affect on the physical, social, and emotional program dimensions. Through the environmental design of the classroom pupils were given time, space, and appropriate materials to help them learn and develop in ways suited to young children. These findings have implications for classroom instruction as well as for further research on how physical, social, and emotional program dimensions affect academic learning.

PREFACE

The research for this study was conducted in two grade one classrooms through the observed behaviour regarding four target pupils in each classroom. Mary Neely, a fellow researcher, simultaneously gathered data for her independent study using the same classrooms and target pupils. Her study was concerned with teacher/pupil interactions, pupil/pupil interactions, and pupil/material transactions.

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Thank you to Dr. Janis Blakey for her guidance in this work. Her concerns for young children, the personal interest and the caring she shows for her students, as well as her dedication to the teaching profession serve as a model for educators.

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CHAPTER I

INTRODUCTION TO THE STUDY

Background

Over the past thirty years, both educators and researchers have increasingly examined various aspects of life in the classroom. Many of these studies have focussed on specific problems young children encounter when entering the school setting. Hamalainen (1952) conducted a survey of elementary school principals to discover the most common problems faced by children in the primary grades. An astonishing 91% of the principals felt that children under six years of age entering school had social adjustment problems and 94% felt that they had problems with emotional adjustment. When normal-aged children (six years of age or older) were considered, 45% of the principals felt that these children had social adjustment problems while 33% thought they had emotional adjustment problems.

In 1981 the Education Branch of the Alberta Government examined difficulties experienced by grade one pupils in St. Albert, Alberta. Data gathered from the St. Albert Protestant Separate School District No. 6 resulted in a number of conclusions regarding programs for grade one children. It stated that an older entry age (more specifically, older than five years and six months) should be established if the first grade is a traditional learn to read program. The provision of a flexible primary curriculum to foster individual progress was also

recommended. The report encouraged the school board to

> explore alternatives which will help the school be better prepared for the needs of students at school entrance, eg. low enrollment grade one classes; extending the number of years in division one without students experiencing a sense of failure; individualizing programs, eliminating or modifying the grade system in elementary school.
>
> (Pain, 1981, p. 42)

The Edmonton Public School Local (1983) of the Alberta Teachers Association, conducted a similar survey involving primary teachers employed by the Edmonton Public School Board and recommended that as children enter school "increased efforts should be made to provide curriculum programs and school organization that will accommodate varying levels of maturity" (p. 10). The comments section of the report indicated that teachers were highly concerned because the children's social and emotional needs were not being met in the present programs and as a result children were failing in the academic areas.

Early Childhood Services (ECS), which is a Branch of Alberta Education, implemented a study in 1984 to assess the "continuity of experience for children according to their individual needs from ECS through the primary grades" (Pain, 1984, p. i). This study included interviews with teachers, principals, and parents as well as classroom observations in fifteen sites across Alberta. The conclusions of the study focussed on the social and emotional aspects of kindergarten and primary grade classrooms, emphasizing the need to develop programs suited to the developmental needs of young children in kindergarten and continuing in the primary grades.

There is a clear expectation from Alberta Education that schools move toward adopting the ECS philosophy in grade one (Pain, 1984). The present curriculum stresses the academic aspects of the program while the ECS philosophy emphasizes the development of the whole child including social, emotional, and physical dimensions. The classroom setting must not only be conducive to academic learning but must also allow the children to experience specific opportunities to help them grow physically, socially, and emotionally. If the ECS philosophy, therefore, is to be extended to the primary grades there must be a clear understanding of how these program dimensions are or are not being met in present grade one programs so that the procedures for implementing changes, if they are needed, can be clearly defined. This study followed the study Articulation Linkages (Pain, 1984) and was concerned with the specific objectives as outlined by ECS and their implementation in the grade one program rather than the broader physical, social, and emotional development of young children.

Purpose of the Study

The main focus of this study was the observed classroom behaviour of eight target pupils in two grade one classrooms which differed in environmental design. The study endeavored to describe actual classroom time spent in physical, social, and emotional program dimensions as outlined in the ECS Philosophy, Goals and Program Dimensions (Alberta Education, 1984). The observed behaviour was recorded and the data used to generate potential implications for articulation of the ECS philosophy.

Specific Research Questions

The following questions were the focus of this study:

1. What is the nature of the time spent in physical learning activities in each classroom setting?
2. What is the nature of the time spent in social development activities in each classroom setting?
3. What is the nature of the time spent in emotional development activities in each classroom setting?
4. What is the effect of the given environments on the program dimensions?

Definitions

The following terms are defined as they were used in this study.

Articulation. The continuing implementation into the primary grades of the ECS philosophy as outlined in Philosophy, goals and program dimensions (Alberta Education, 1984) for children from 4 1/2 to 8 years of age.

Class/group discussion. The pupils are involved in a situation where they are listening to others and have the opportunity to express their ideas and feelings.

Closed structured activities. Activities performed in such a way that an externally predetermined idea or product is produced.

Cooperative sharing. The pupil is actively involved with one or more pupils in a project which might involve manipulatives or pencil/paper activities. An adult may be part of the group.

Environmental descriptors. Ways of describing how time, space, materials, and human resources are utilized in a given setting.

Environmental design. The use of time, space, materials, and human resources in a given setting.

Fine motor skills. Skills which involve muscles in the arms, hands and fingers. They include finger speed, arm steadiness, arm and hand precision, finger and hand dexterity, and are present in activities that involve the manipulation of small materials (Alberta Education, 1984).

Gross motor skills. Skills which involve large muscle activity and are present in movements such as crawling, walking, running, leaping, jumping, hopping, galloping, skipping, and climbing (Alberta Education, 1984).

Non-problem solving approach to resolving interpersonal conflict. The use of fighting, arguing, or direct adult action to resolve conflict.

Open structured activities. Activities which are performed in such a way that original or unusual ideas or products are produced.

Outgoing child. A child who takes initiative, readily approaches new experiences, expresses self with ease, and involves self freely in sharing ideas and cooperating with others.

Personal decisions. Situations in which pupils are actively involved in planning their own actions or work.

Problem-solving approach to resolving interpersonal conflict. An attempt is made by the teacher and/or the pupils involved to understand the reasons for the conflict and to work together to resolve it.

Pupil wait-time. Time pupils spend in waiting for the next activity.

Self-directed activities. Open-ended activities in which the pupil has a choice of to use materials or how to approach a particular assignment.

Teacher-directed activities. Activities in which the pupil receives directions from the teacher on what activity to do and how to do it.

Significance of the Study

Alberta Education has a clear expectation that schools will move toward adopting the ECS philosophy in grade one (Pain, 1984). This philosophy specifies nine program dimensions including the physical, social, and emotional development of children and outlines briefly some of the factors which may contribute to the growth of children in each area. By analyzing the nature of time spent in physical, social, and emotional development in two grade one classrooms, this study attempted to describe how these program dimensions were incorporated into two present grade one programs. These dimensions, as they are described in the grade one programs outlined in this study, have implications for the articulation of the ECS philosophy. The findings of this study indicate specific areas that could be considered for change or attention.

Limitations of the Study

1. This study observed the classroom behaviour of eight pupils in two grade one classrooms in an urban setting and generalizability is therefore limited.
2. The study has taken into account only a portion of the variables

which are part of learning time in the classroom environment. The factors contributing to physical, social, and emotional development of pupils have been limited to some of the processes described in Early Childhood Services: Philosophy, goals and program dimensions (Alberta Education, 1984). Since the study may have implications for the implementation of the ECS philosophy in grade one, only those factors which were observable and could be altered by direct changes to the program to aid articulation were chosen for this study.

Overview of the Study

The study was concerned with the physical, social, and emotional development of grade one children in two classrooms.

Chapter I has presented concerns which educators and researchers have had in the past thirty years regarding problems faced by children entering school. The focus of this study was to observe behaviour of eight target pupils in two grade one classrooms which differed in environmental designs in order to describe actual classroom time spent in physical, social, and emotional program dimensions. Specific research questions and definitions of terms as they were used in the study were given. Although the study was limited to two classrooms in an urban setting and considered only a portion of the physical, social, and emotional aspects of the classroom, the study may have significance in the implementation of the ECS philosophy in the primary grades.

Chapter II contains a review of literature which is pertinent to the establishment of the background of this study. A description of the ECS philosophy and program dimensions is followed by discussions of

factors which relate to the physical, social, and emotional development of children. The chapter concludes with some concerns which educators and researchers have about young children in our present society and relates these concerns to the move by ECS to create programs which reflect the developmental needs of young children from 4 1/2 to 8 years of age.

Chapter III presents the design of the study. The sample consisted of a more outgoing and a less outgoing boy and girl in each of two classrooms. The classroom designs were based on descriptors of two different classroom environments as described in the study Articulation Linkages (Pain, 1984). Observations of target pupils were recorded every two minutes for one half hour periods interspersed throughout the day. General observations were recorded for the rest of the time spent in the classrooms. Four hundred and eighty minutes of observations were recorded in each classroom and were categorized according to developmental program dimensions as outlined in the ECS philosophy (Alberta Education, 1984).

Chapter IV provides a descriptive overview of each classroom based on the observations and then analyzes the data in order to describe the nature of the time spent in physical, social, and emotional program dimensions in each of the classroom environments. The chapter concludes with a discussion of the effects of the two environments on the program dimensions.

Chapter V presents the conclusions of the study. Implications for articulation of ECS/primary programs are presented as well as implications for inservicing and teacher education. Recommendations for further study conclude the chapter.

CHAPTER II

BACKGROUND TO THE STUDY

> I like the picture of our child as a house owned by his soul, inhabited by his instincts; his wants, fears, desires and loves, his hates and happiness. A merry, motley, moving company, some potential homicides, others pure saints, rubbing shoulders and elbows with one another, all together going for it, like a carnival of celebrants dancing madly. At times, from the pressures within, they venture outside into the street for a breath of fresh air, exercise themselves and encounter others, bring back food and something new to talk about, returning somewhat civilised.
>
> (Ashton-Warner, 1974, pp. 33-34)

Children are not miniature adults but rather unique human beings who need to learn about their physical world, their feelings, and their relationships to others in their own way. Play is an activity through which children learn about themselves and discover how they relate to their environment (Butler, Gotts & Quisenberry, 1978; Denzin, 1977; Lowenfeld, 1969; Stamm, 1976; Weininger, 1982) since it allows them to assimilate their emotional feelings (Butler et al., 1978; Stamm, 1976), to take the viewpoint of others (Denzin, 1977), and to master skills (Butler et al., 1978). Garvey (1977) states that "play has been linked with creativity, problem-solving, language learning, the development of social roles, and a number of other cognitive and social phenomena" (p. 5).

> During play we mix and learn to mix; strive and learn to strive; reach out and interact. We perceive, we learn and we grow during play. We perceive more of ourselves. We perceive more of other selves. We perceive more about the rest of our world, the world of objects, animate and inanimate, organic and inorganic; and, we perceive more of ourselves in space and time.
>
> (Grey, 1974, p. 82)

For many years, educators such as Mead, Groos, Hall, Caillois, Piaget, Freud, Herron, Sutton-Smith and Ellis have had interests in play and games of early childhood (Denzin, 1977). The purpose of this literature review, however, is not to deal with theories of play but rather to recognize that play is "essential to the child's development: emotional, physical, psychological and cognitive" (Weininger, 1982, p. 117). Although academic skills may be the major focus of the education system, the concern that children learn in ways which are suited to their developmental needs has been recognized by Alberta Education (1984). Five topics relating to young children will be described to show that particular needs must be met to enable these children to achieve academically. The topics are as follows:

1. The philosophy of Early Childhood Services (ECS).
2. The physical development of children in early childhood.
3. The social development of children in early childhood.
4. The emotional development of children in early childhood.
5. Concerns about children in early childhood.

1. The philosophy of Early Childhood Services (ECS).

The ECS Branch of Alberta Education is concerned that young children should have programs available to them which meet all of

their developmental needs. In 1984 an exploratory study, Articulation Linkages, conducted by Pain, focussed on factors involved in articulation. Although articulation was defined as providing continuity of experiences for children according to their individual needs from ECS through the primary grades, there appeared to be confusion regarding the term throughout the study. Following the study Dr. E.A. Torgunrud, the director of the ECS Branch of Alberta Education, in a prospectus entitled "For the Development of Draft Policy For ECS/Primary Articulation" defined articulation as

> forming and sustaining a dynamic system which enables continuity of developmental experiences for children during their participation in Early Childhood Services and Primary Education, with the primary focus upon children 4 1/2 to 8 years of age, but including children with special needs as early as 2 1/2 years.
>
> (Torgunrud, 1985, p. 4)

Through articulation the philosophy, goals, and program dimensions for early childhood programs, as described by Alberta Education (1984), are now being extended to include children in the primary grades (Pain, 1984). The philosophy of ECS is based on a set of beliefs and principles about the child, the family, the staff, and the community, and how the interrelationships of these factors affect children's growth and development. The seven principles of the ECS philosophy are summarized in the following statements.

a) Human development is a continuous, sequential, interactive process with each child having a unique rate of development and requiring attention, acceptance, and love. Children need to experience and express feelings, to be physically healthy and

active, to develop language skills and thinking processes, to develop relation s with others, and to communicate in unique and individual ways.

b) Early childhood is a particularily significant period in human development. Independence, initiative, decision-making, creativity, ability to learn, ability to relate to others, and feelings of self-worth all have their beginnings during this time.

c) The self-concept is important in human development. Self-concept is the image one has of oneself and includes knowledge and feelings about one's status, appearance, and aptitudes. Through an understanding of how others see them, children learn to value themselves and decide whether they are worthwhile and competent.

d) Children learn through interaction with their environment. They need time, through concrete first-hand experiences, to explore, experiment, and imitate. They need to use all their senses in learning. The more diverse their experiences, the more able they will be to generate new ideas, develop language, and solve problems.

e) Play is essential to the child's development. Play is recognized as a major learning process and because of its risk-free atmosphere, provides a natural opportunity for young children to add to their knowledge, learn new skills, and to practise familiar ones. Children must have materials, time, and space to play.

f) Parents are primary agents in the child's development. Because parents have the major influence on their children's development,

ECS programs should provide them with the opportunity to enhance their knowledge and skills in working with young children.

g) A system of coordinated responsive services is required to deliver programs that meet the needs of children, parents, and staff.

Thus children are seen as unique individuals and must be given opportunities to develop to their fullest potential physically, emotionally, intellectually, socially, and creatively while their dignity and worth is respected and enhanced. Since children whose needs have been adequately met are more likely to become healthy, responsible, and secure people it is essential that they be provided with opportunities to stimulate their natural curiosity. Children are also part of the family which is seen as a fundamental unit in our society and therefore parents are given the right and the responsibility to be involved in the development, implementation, and evaluation of programs for their children. The teaching staff must have the knowledge, attitudes, and skills to meet the needs of young children and their parents, and may require different training to work in this capacity. In addition, programs must be flexible and responsive to the needs of local communities, and must involve community members in providing resources for the children, parents, and school staff.

On the basis of these principles, ECS identified nine program dimensions related to young children. The first dimension which is considered central to all other areas is the development of the child's self-concept. The way in which children see themselves influences their physical, intellectual, social, and creative

performance and therefore programs should help children accept themselves as worthwhile individuals, help them develop pride in their heritage, and allow them to experience competence and success.

The second dimension, health and physical development, addresses the areas of health and safety as well as physical development. Children need a safe environment, nutritious food, and proper dental and health care. They must be given opportunities to develop gross motor, fine motor, and perceptual motor skills as well as fundamental movement abilitites which include coordination, balance and stability, locomotion, and rhythm.

Social development, the third dimension, deals with how children interact with others, learn standards of acceptable behaviour, enhance feelings of respect, acceptance, and caring, and provides opportunities for children to cooperate and share with others as they develop positive social relationships.

The fourth program dimension addresses the emotional development of children. Programs need to provide opportunities for young children to express feelings and deal with them in appropriate ways, to cope with frustration and failure, to develop independence, to make decisions, to develop initiative, and to become involved in self-directed activities.

In order to enhance intellectual development, the fifth dimension, children must be given opportunities to select, plan, and organize their own learning activities for a significant portion of the program day. They should have opportunities to work with concrete materials in order to develop mathematics and language concepts.

The creative development of children is listed as a sixth program dimension and encourages creative development by providing an environment with materials which allow children to explore and create a wide range of ideas and objects.

The seventh dimension recognizes the need for parental involvement and encourages parents to be involved in program planning, implementation, and evaluation. Parents also have the right to receive adequate information concerning their child's program and progress.

Staff development is included as the eighth dimension and stresses the importance of the manner in which teachers relate to children and parents. The ability to design and implement appropriate programs, to serve as an effective model of behaviour for children and adults, as well as to help the children relate to their environment and to others are important attributes for a teacher.

The final dimension, coordination of community services, recognizes the importance of assessing the health, social, educational, and recreational needs of the community so that children and parents will have adequate access to services in their area.

Although the program dimensions have been separated into these nine areas, they are all interrelated and apply to parents and educators. Provisions are made in each area to ensure that children with special needs have opportunities and materials necessary to achieve their potential. The program dimensions give some practical applications of the goals and philosophies of ECS and set a positive

direction for educators, parents, and community service personnel.

2. The physical development of children in early childhood.

Norris and Boucher (1980) describe the years from five to seven as a time when large muscles become stronger and more highly developed, although some wrist bones may not be completely formed. While wrists and fingers allow for more precise handling of materials, eyes are not mature in size and thus sustained, close work could injure the nervous system, cause muscular disorders, vision defects, and attitudinal problems. Hearing is not fully developed and many children have difficulty distinguishing and remembering sounds. The child five to seven years of age has a high energy level, tires easily, and may be a good starter but is not interested in task completion.

Elkind and Wiener (1978) maintain that it is not until children reach the age of six that they can jump and hop with enough precision to move from one square to another in a game such as hopscotch. They also note that by six years of age most children can throw a small ball forcefully with some accuracy but catching is much more difficult since they cannot accurately estimate a ball's trajectory at this age. According to Lowenfeld (1969), physical movement helps children to experiment with their bodies, gives satisfaction by establishing confidence in their ultimate ability to master their bodies, enhances an awareness and understanding of how their bodies work, and helps them gain control of their bodies and develop physical self-confidence.

The Sierra Madre Community Nursery School Staff (1978) points out that as children learn to manage and maneuver their bodies with

ease they develop a feeling of competence, success, and pleasure. Small muscle movements are just as important as the gross motor skills. By manipulating objects, children develop skill in using their hands and eyes as a unified tool in order to create, change, and master their environment. By touching, probing, and poking they use their hands to gather information about shape, size, texture, and weight. Butler, Gotts, and Quisenberry (1978) state that when children appear to be playing, they are actually engaged in the serious business of gaining both fine and gross motor skills.

Children need physical activity not only to develop fine motor, gross motor, and perceptual motor skills, but also to release a build-up of tension in their bodies (Butler et al., 1978; Stamm, 1976). Weininger (1982) sees play as a physical activity which "provides a release from the tensions of our highly competitive, very organized but often not physically active lives" (p. 126). Oppenheim (1984) suggests that young children are not ready for the tension of organized competitive games but rather need time to expend their energies by practising skills such as balancing, running, kicking, throwing, catching, or hitting a ball. Lowenfeld states that if "properly exercised, the right to 'let off steam', when the need is felt, results in renewed power of concentration, and the reawakening of interest in accomplishment" (Lowenfeld, 1969, p. 62).

The use of sensori motor skills is another important aspect of physical development.

> Young children think with their hands (they touch to find out) and [illegible]alize with their feet (stamping and kicking nosily fine acts of comradeship!). Or, they might thi[illegible]with their feet (what happens to a worm?) and socialize with their hands (what will happen if I touch him in the eye?)
>
> (Cohen, Stern & Balaban, 1983, p. 4.)

Weininger (1982) says that it is the child's "past sensori motor successful experiences that allow him and perhaps even motivate him to tackle new objects which bear some, even slight, resemblances to old experienced objects" (p. 44). If children have sufficient sensori motor experiences they not only learn to understand the materials with which they are working but as they interact with one another they also learn to understand, predict, and adjust to the acts of other children (Weininger, 1982). Oppenheim (1984) stresses that understanding does not come through words alone but says that "this sensory style of learning remains the dominant way children build solid understanding" (p. 87).

Alberta Education (1984) recognizes the need for physical activity to develop gross motor, fine motor, and perceptual motor skills as well as stressing sensory awareness for young children. Each of these aspects are included in the ECS program dimensions.

3. <u>The social development of children in early childhood.</u>

Oppenheim (1984) sees play as the medium through which children come to understand themselves and others. It is through play that a child develops social relationships (Weininger, 1979) and learns to cooperate and interact with others (Denzin, 1977).

> All the important people of his world figure in this play: he imitates, he becomes, he symbolises. He works off aggression or compensates himself for lack of love by 'being' one or the other of the people who impinge on his life. By acting as he conceives they do, he tries to understand them. Since children tend to have inflexible roles thrust on them by adults, they need opportunities to explore different roles and to make a freer choice of their own. Early exploration of the actions, motives and feelings of themselves and of others is likely to be an important factor in the ability to form right relationships, which in its turn seems to be a critical element in mental health.
>
> (The Plowden Report, 1973, p. 144)

Weininger (1982) sees active play with blocks, sand, water, small replica objects, and costumes as laying the foundations for true social behaviour. Children have the opportunity to explore and discover the functions of objects and their reactions and relationships to these objects. "As the cognitive structures for actions and behavior become sufficiently complex and organized" parallel play emerges (Weininger, 1982, p. 46). Through imitation a base develops

> which seems to allow the cognitive organizations of one child to interact with another in ways which we would see as truly social. The child is now able to understand, predict and adjust to the acts of the other; he has gone through the positions of experiencing a wide variety of sensorimotor actions, he has built structures cognitively which have allowed him to explore new objects; he has been able to 'see' how to use things even before he has tried them; he has imitated actions of other children gradually moving toward a position of understanding their actions and language, and thereby allowing for an interplay of mutual evolving situations which become social behavior. Cooperative play, where children interact with each other, share and exchange, is in part social behavior. It is truly social behavior when children organize themselves around a theme which has been mutually talked of and mutually developed.
>
> (Weininger, 1982, p. 47)

Weininger's steps of socialization, sensorimotor play, parallel play, and finally cooperative play, are paralleled by Piaget and Erikson (Stamm, 1976). Piaget outlines the progression from practise play, to symbolic play, and then to play with rules while Erikson identifies the stages as play with own body, play with objects, and play with others.

Elkind (1981) also stresses the role of concrete operations in developing interpersonal relationships. Children at this stage "have the capacity to learn and operate according to rules, the basis for all lasting social exchanges" (p. 104). "Learning to create rules - even simple rules for otherwise uncomplicated street games - and to abide by those you have created is an important part of mature social behavior" (pp. 105-106).

As part of their development, young children need to learn to relate to others but they also

> need to learn verbal (that is, nonphysical) solutions to problems. Such socially acceptable problem-solving skills may be even more important than academic skills in a young person's present and future life adjustment. Such social skills may be a critical factor in whether he or she can live with a family or in a group living situation, and in whether a person can adjust happily to all relationships with other people. Therefore, the social skills that attending adults model and teach may constitute the most important learning that they can transmit to the young people in their care.
>
> (Cochrane & Myers, 1980, p. 15)

When children are in conflict with others they need to be given the opportunity to state the cause of the conflict, listen to the other person's point of view, and be assisted in labeling feelings.

Exploration of alternatives and agreement on a solution need to be part of the process (Cochrane & Myers, 1980).

Children need time, models, and guidance to develop social skills and to resolve interpersonal conflicts. Alberta Education (1984) considered these aspects in outlining the program dimensions for social development. Giving students time to cooperate and share, to develop positive relationships, to become members of the larger group, and to use a problem-solving approach to deal with interpersonal conflict are all part of the ECS program.

4. The emotional development of children in early childhood.

> Children from birth to eight years of age cannot just be thought of as miniature adults, nor can they be thought of as individuals who have an unending appetite for change and can learn just about anything that is presented to them, when it is presented and no matter how much is presented. We must recognize that young children have limits as to how much they are able to absorb and do, and that the way in which adults present information to young children will impinge upon an existing framework that is affective. Children have very strong feelings, they love and they hate, they are curious and they are afraid, they have confidence and they are lacking in confidence, and it is upon this affective bed that we offer things, ideas and requests to children.
>
> (Weininger, 1982, p. vi)

In the same way that play helps children to learn and develop social skills, it also allows them to make sense and order out of what they see, hear, and feel. Through play, art, and literature children can learn to deal with their fears and frustrations as well as their joys (Oppenheim, 1984). Psychologists and psychiatrists recognize that emotions and feelings are the most complex and intricate part of development. Feelings and emotions have their own

timing and rhythm and cannot be hurried (Elkind, 1981). Butler, Gotts, and Quisenberry (1978) support this view and state that schools must provide programs to meet the individual needs of students in order to guard against the child's developing feelings of failure and inadequacy. "Teaching practice ought to reflect the enormous diversities among children, treating them as individuals, and proceeding, when possible, from their strengths, rather than from their weaknesses" (Featherstone, 1973, p. 135). When children are confronted with academics before they have the requisite mental abilities they will become frustrated and view themselves as incompetent and worthless (Katz, 1983, Elkind, 1981). Erikson (Elkind & Weiner, 1978) contends that during their early years children develop their sense of initiative and industry and if they encounter more failures than successes they will develop feelings of guilt and inferiority. Rather than having a sense of self-confidence "children who experience repeated school failures are likely to acquire the orientation of learned helplessness as well as an abiding sense of inferiority" (Elkind, 1981, p. 109).

Featherstone (1973) suggests that "good teachers start with the lives of children here and now, and proceed from their experiences toward more disciplined inquiry" (p. 135). He also states that

> learning is more effective if it grows out of the interests of the learner. (And of course interests are not just there, like flowers waiting to bud: they are formed and cultivated by teaching.) Both experience and theory suggest that active learning is better than passive rote. Giving children choices within a planned environment helps them develop initiative, competence, and an ability to think for themselves.
>
> (Featherstone, 1973, p. 135)

Piaget, Erikson, Sutton-Smith, and Dewey all lead us to question the value of learning that takes place in a highly directed situation. They all suggest that children must have the opportunity to develop through repeated self-directed experiences (Butler et al., 1978). Suransky (1982) as well as and Butler, Gotts, and Quisenberry (1978) warn against highly directed situations where the adult decides the time, place, and materials to be used. Children need opportunities to make decisions, to try things independently, to choose materials and toys, and to learn from mistakes (Butler et al., 1978).

ECS program dimensions specifically state that children must be given opportunities to express and explore their feelings (Alberta Education, 1984). Their emotional development must also be enhanced by giving them opportunities to develop independence, make decisions, develop initiative, and to become involved in self-directed activites. Use of play to fulfil these objectives is effective because "it enables children to act out some of the frustrations they feel in learning to accept limitations on their behavior. And, it provides the arena in which children begin to exercise self-control" (Butler et al., 1978, p. 81). Programs which are dedicated to the emotional development of the child must also allow the child to make decisions and to be involved in self-directed activities.

5. Concerns about children in early childhood.

Two major concerns regarding young children today are that too many expectations and pressures are being exerted on them and that they are not being taught in the way in which they learn naturally.

Sylvia Ashton-Warner (1974) speaks of how solo homes, advertising, and television have affected the lives of children in North America. Children are bombarded with images which are not real to them and intellectual development is stressed rather than allowing children to learn for themselves through the use of their senses.

> Surpassingly beautiful children to look at, yet these also have such small hands and feet they can't walk till five or six let alone do anything or make anything, while their head-domes also are overlarge and hairless, with brains budding from the scalps in the prettiest way. And although their feet have atrophied, their legs still have this exquisite length engendered an eon ago on the Earth, and although their hands are practically useless their tongues make up for it, so that they begin speaking at a few months old, eloquently too, and at length in lucid argument.
>
> (Ashton-Warner, 1974, p. 219)

Ashton-Warner continues to say that because man-made imagery has replaced the children's native imagery, children now need help to discover their feelings. "Not that you know what feeling is...all you know is that something is missing. Something that nothing can buy; that no skill in tongue warfare can win" (Ashton-Warner, 1974, p. 222).

Elkind (1981) points out that "today's child has become the unwilling, unintended victim of overwhelming stress - the stress borne of rapid, bewildering social change and constantly rising

expectations" (p. 3). He says that children have their "own way of seeing, thinking, and feeling" (p. 4) but adult pressures have been placed on them in our society. Pressure for early intellectual attainment, adult-type designer clothes, specialized training rather than fun at summer camps, independent travel, media exposure of adult behaviour, language, and interpersonal strategies all put children into an adult world which they cannot handle. "Children do not learn, think, or feel in the same way as adults" (p. 22) and they "need time to grow, to learn, and to develop" (p. 21).

Coleman (1976) notes that in the past schools used to be information sources and skill teaching centers for children while homes and society taught students responsibilities. He points out that now schools need to teach strategies for using information and making decisions rather than just concentrating on knowledge and cognitive skills.

> Only if the new educational institutions resist the temptation to direct themselves principally to teaching the child can they fruitfully redirect their goals. One of these goals must be the development of strategies for coping with an information-rich and institutionally complex society; another must be the use of external activities where children are not students but contributors to a large enterprise. Working with others under the discipline imposed by a common task and purpose is incompatible with the wholly individualistic goal of learning around which current schools are organized. And it is such involvement that is necessary to provide both direction to life and the motivation to learn how to implement it.
>
> (Coleman, 1976, p. 388)

Weininger (1982), as has already been discussed, strongly supports the use of play to develop physical, social, and emotional

skills. Children need opportunities to explore and discover not only in preschool programs but later on as well.

> An increasing number of studies provide evidence that play, when effectively used, enhances learning not only in preschool programs but in school programs as well. Programs seem to be more successful when the curriculum is built around equipment, so that play and discovery are important and the child's curiosity is used as a learning device. And yet it has been noted that as far as toys and equipment are concerned, it is not the precise equipment that is important but rather the way the children use it. Children seem able to create something from almost nothing.
>
> (Weininger, 1982, p. 118)

Elkind and Weiner (1978) suggest that many learning-disabled children have been mislabelled and should really be called "curriculum-disabled". Children need a nonpressured environment where they are exposed "to curriculum materials suited to their level of cognitive development and which are relatively devoid of ambiguity, contradictions, and confusions" (p. 479). Too-early introduction to formal instruction in reading and inappropriate materials cause many children to fail.

> Instructions that are too long and too cumbersome prevent children from demonstrating what they know. Exercises that are much too complicated to carry out produce frustration and anger. Illustrations and formats that do not relate to tasks at hand deflect even the most well-intentioned and highly motivated child. Some children when confronted with the stupidities rampant in the curriculum materials believe, nonetheless, that it is they - not the materials - who are dumb.
>
> (Elkind & Weiner, 1978, p. 480)

Piaget (Elkind & Duckworth, 1973) notes that children are learning all the time but we must consider what they are learning.

Rather than learning the subject matter, children may be learning that they are slow. The Plowden Report (1973) makes the same point when the authors state that "instruction in many primary schools continues to bewilder children because it outruns their experience" (p. 145).

Hilliard (1979) notes that the majority of children have "basic learning assets built into them: they are curious, they are explorers, they take risks, they seek contact with others, they enjoy feedback, they are great imitators" (p. 21). They need to be provided with materials, time, space, and encouragement to develop these learning assets. Are children given the opportunities in our schools to use these assets to develop physically, socially, and emotionally or do we allow for the development of these skills in kindergarten and then neglect them in grade one? The education of young children from 4 1/2 to 8 years of age is crucial and must take into account a wide range of factors concerning how children learn. The ECS Branch of Alberta Education has begun a move to implement programs related to the developmental needs of children but further changes to present grade one programs may be needed to more fully meet these needs.

CHAPTER III

THE STUDY

Introduction

Articulation Linkages (Pain, 1984) focussed on factors associated with the successful articulation of ECS and primary school programs. More specifically, the implementation and continuation of programs based on the developmental needs of young children in the early school years were researched and conclusions were based on the themes and issues raised by teachers, principals, and parents in interviews conducted by the researchers. Thirty to sixty minute observations were made in classrooms but the actual behaviour of pupils was not considered as a major component of the study. Further study was needed to determine whether data collected from the actual observed behaviour in classrooms would result in the same conclusions as the data gathered through interviews with the adults involved in the education of young children. Research was required to determine whether the environmental designs of the classrooms actually affected the experiences of the children.

In addition, Articulation Linkages (Pain, 1984) indicated that grade one teachers would be the key in advancing the concept of articulation. In order to guide teachers in implementing such programs this follow up study was designed to assess, through observed classroom behaviour, which factors of articulation were now present and to

possibly determine specific changes which might be needed to create programs based on the developmental needs of young children.

The Sample

The study was conducted with eight pupils, four in each of two grade one classrooms of given environmental designs at midpoint in the school year. These heterogeneous classrooms were in public schools in established districts of Edmonton of similar socioeconomic status, and had stable populations with the majority of pupils coming from two parent families living in single family dwellings. The Early Childhood Consultant of the Edmonton Public School Board was given the environmental descriptors for two types of classrooms and asked to recommend four excellent teachers with at least three years of teaching experience in their given environmental designs. Descriptors for the two classrooms were based on the classes described in Articulation Linkages (Pain, 1984). The researcher randomly chose one teacher from each list and contacted those teachers by telephone to briefly describe the overall nature of the study. The researcher then visited one teacher from each list who showed an interest in participating in the study, sharing the program descriptors for the particular environmental design and discussing each descriptor to satisfy both the teacher and the researcher that the classroom environment was being accurately described. The descriptors which were shared with the teacher for environmental design type A were that teachers' reading and mathematics guidebooks were followed in a given sequence, the teacher planned the activities for the class, the pupils were involved in small group or

whole class instruction, and the classroom was self-contained. The basic descriptors for environmental design type B were that teachers' reading and mathematics guidebooks were used as references, pupils were involved in planning activities, instruction was based on the individual pupils' needs, and the classroom was self-contained. The researcher then visited each classroom for half a day while classes were in session to ensure that the setting matched the descriptors in practice as well as in theory. Observations and additional informal interviews with the classroom teachers were used to establish final descriptors for the two environmental designs.

Environmental Design Type A

1. Pupils worked mainly at individual desks arranged in rows.
2. The teacher planned, delivered, and evaluated the program.
3. Teachers' reading and mathematics guidebooks were followed in the given sequence.
4. The pupils were involved in small group or whole class instruction.
5. Parent participation was minimal.
6. No cooperative program planning between the kindergarten and the grade one teachers was evident.
7. The setting was a self-contained classroom.

Environmental Design Type B

1. Learning centres were utilized in the program.
2. Children, teachers, and parents were active participants in the planning, delivery, and evaluation of the program.
3. Teachers' reading and mathematics guidebooks were used as

references.

4. Individualization of instruction was based on pupils' needs and allowed for individual choices.
5. Parent participation in the program was significant.
6. Close cooperation in program planning between the kindergarten and grade one teachers was evident.
7. The setting was a self-contained classroom.

Agreement to participate was obtained from the Edmonton Public School Board, the teachers, and the principals in each school. A letter was prepared by the researcher to be sent to the parents of the pupils in the classroom of environmental design type A informing them of the researcher's presence and purpose in the classroom (Appendix 1). The teacher in environmental design type B included this information in a weekly newsletter to the parents of the pupils.

The teachers were then asked to assess and list separately more outgoing pupils and less outgoing pupils in the classroom. During the observation periods, prior to data collection, the researcher selected one boy and one girl from each list as representatives of that group. An alternate pupil of each type was also chosen to replace the target pupil in the event of absence. The teachers were not informed of the target pupils or particular focus of the observations but were simply told that the general behaviour regarding the target pupils was being observed and recorded.

The Pilot Study

A two-phase pilot study was conducted with another researcher in order to practice observational techniques and to establish

inter-observer reliability. During the week of November 5th, 1984 a grade one classroom of environmental design type A and a kindergarten classroom of environmental design type B were observed at a public school in Edmonton. General observations of the pupils were made to explore the feasibility of the variables outlined for the study. Several alterations and modifications were found necessary at that time.

The second phase of the pilot study was conducted in a kindergarten classroom as closely related to the descriptors indicated for the environmental design type B as possible. Browne (1971) and Anderson (1978) maintain that it may be necessary to alter observational procedures because of the nature of interactions in complex classrooms. This study provided the researcher with experience in observational techniques and the opportunity to establish inter-observer agreement which was utilized in this research. Kazdin (1977) considered this agreement to be an acceptable measure of reliability. Two researchers independently recorded observations of a target pupil for 20 to 30 minute periods. These coded observations were immediately compared and discrepancies discussed outside the actual classroom setting while the observations were still fresh in the researchers' memories (Marliave, Fisher, Filby, & Dishaw, 1977). Since the observations were anecdotal in nature the researchers were considered to be in agreement if the comments were similar in tone and meaning but different in specific wordings (Pain, 1984). The researchers discussed the discrepancies and details of the observations until both were satisfied that there was agreement for classification into the categories of pupil behaviour to be used in the study.

The Procedure

Three days were spent in each of the classrooms by the researcher prior to the commencement of the data gathering observation periods. This time allowed the researcher to become familiar with the classroom environments and provided an opportunity for the classroom teachers and pupils to become accustomed to the presence of the researcher. The researcher made the final selection of target pupils to be observed and kept a logbook to record classroom procedures and informal discussions with the teachers.

Anecdotal data on four pupils in each of the two classroom settings was gathered through descriptive observational techniques and general observations in the classrooms. Recordings were made of the observations of one target pupil during each day of the study. Anecdotal observations of the target pupils were recorded every two minutes during the half-hour observation times and general observations of classroom activities were recorded during the rest of the day. Powell, Martindale and Kulp (1974) found that when this momentary assessment of the pupil's behaviour was generalized to the three minute interval, approximately a 10% error in comparison with continuous observation could be expected. The teachers were not aware of exact observation times, of the target pupils, or of the precise nature of the study.

Researchers have used observational periods ranging from one to seven days to obtain samples of classroom behaviour (Smyth, 1979). Forness and Guthrie (1977) addressed the question of stability of pupil behaviour in short-term classroom observation and found that data

gathered in four consecutive days of observation were as stable as those collected over fifteen days. Thursday and Friday of the week prior to data collection in each classroom was spent in general observations. The researcher became familiar with class routines, and room arrangement, and selected the target pupils. The Monday of the week of data collection was used to re-establish familiarity between the researcher and the class members as well as to establish inter-observer reliability in each classroom. One week was allowed between the data collection periods in the two classrooms in order to give the researcher a rest from the strenuous concentration of recording data. Observation periods were interspersed throughout the day in order to allow data to be collected from all parts of the day. The data gathered yielded 480 minutes of observation in each classroom. Each target pupil was paired with another pupil selected from the original list. In the event that a target pupil was absent the paired pupil became the focus of observation. Observation of the paired pupil continued until such time as the reason for, and likely duration of, the absence was ascertained (Smyth, 1979). For the purpose of this study it was assumed that continued observation of the paired pupil was acceptable in the event that the target pupil did not return.

The Study

Two researchers used the same classrooms and target pupils to gather data for their individual studies. The environmental design type A classroom was observed from January 24 to February 1, 1985 while the environmental design type B classroom was observed from February 7 to 15, 1985. Observations were made of the four target pupils in each

classroom. One type of pupil (more outgoing or less outgoing) was observed as the target pupil each day and the observations were combined to form a composit picture of what a day would be like for an average child in that particular environment. In Study A the more outgoing girl was observed on Tuesday, the less outgoing boy on Wednesday, the more outgoing boy on Thursday, and the less outgoing girl on Friday. In Study B, observations of the more outgoing girl occurred on Tuesday, the more outgoing boy on Wednesday, the less outgoing girl on Thursday, and the less outgoing boy on Friday. Some pupils were not in the classroom for the full day so attempts were made to observe pupils on days when they were part of the regular classroom routine. Anecdotal recordings included the physical position and location of the target pupil, the activity in which the pupil was engaged and a brief statement of the larger class context. Teacher or other pupil comments were recorded only if they related directly to the target pupil or if the target pupil was waiting or watching what was happening. These recordings resulted in 480 minutes of observation in each classroom.

Before beginning the actual study the two researchers recorded sixty minutes of observations simultaneously in each classroom. These observations were compared to establish inter-observer reliability in each setting. The two researchers were found to be 100% in agreement in the observations as required for classification into categories for this study. See Appendix 2 for samples of the recordings which were considered to be in agreement.

Each classroom teacher supplied the reseacher with a timetable (Appendix 3) and half hour observation periods were chosen so that all

parts of the day and subject areas could be covered. A few alterations to the original schedu ecame necessary because extremely cold weather resulted in cancellations of recesses and early dismissals. Observation times were adjusted accordingly. All of the pupils in one school went to the gymnasium to see a film during an unscheduled staff meeting and a Valentine party was held on St. Valentine's day in the other school. The researcher decided that these activities were not part of the regular weekly schedule and did not collect observational data during these times.

The researcher stayed with the target pupil throughout the class time. In both classrooms the pupils spent one hour per week with the music teacher so observations of target pupils continued in that environment. The school in which the environmental design type B classroom was situated had a one hour option program once a week as well as Buddy Days and school assemblies. Since these programs were considered to be a regular part of the target pupils' activities, observations were made in the classroom where the target pupils participated in the program.

For the remainder of this study the environmental design type A classroom will be referred to as Study A while the environmental design type B classroom will be Study B.

Summary

The study was conducted with four pupils in each of two grade one classrooms of given environmental designs midpoint in the school year. The descriptors for the classrooms were based on the study Articulation Linkages (Pain, 1984) and the data collected in each setting were

designated as Study A and Study B. The target pupils in each classroom consisted of a more outgoing boy and girl and a less outgoing boy and girl. Three and one half days were spent in the classrooms by the researcher prior to the data collection periods in order to finalize descriptors for the classrooms, to establish familiarity with class members and classroom routines, and to make the final selection of target pupils. Anecdotal observations were recorded every two minutes for half hour periods interspersed throughout the four continuous days of observation in each classroom. General observations were recorded during the remainder of the time. A second researcher trained in Early Childhood Education participated in the research to establish inter-observer reliablility.

CHAPTER IV

ANALYSIS OF DATA

Introduction

Observations made in two classrooms of different environmental designs yielded 240 codings representing 480 minutes of class time in each study. Four target pupils were observed in each classroom and the observations were combined to describe the nature of the time spent in physical, social, and emotional program dimensions in each study.

Observational data from each classroom were analyzed in two ways. More specifically, general observations were used to describe the daily class routines for each class and secondly, all the specific observations were classified according to descriptors for physical, social, and emotional development activities as described in the ECS Philosophy and Program Dimensions (Alberta Education, 1984). Appendix 4 outlines the basic descriptors which were used to develop the categories. Inter-rater reliability was used to confirm the descriptors and the categories. Four sets of twelve consecutive observations were randomly chosen from each set of data. An experienced grade one teacher, trained in Early Childhood Education, then categorized these observations according to descriptors based on the ECS guidelines. The teacher was a fellow researcher who was in both classrooms during the entire data collection periods. An inter-rater agreement was reached on ninety of the ninety-six

observations resulting in 93.75% agreement. Three of the six observations which were coded differently still resulted in observations being placed in the same broad categories such as cooperative sharing and wait time. These three observations were:

- Target pupil walking at math centre delivering number fact valentines to mailboxes. Four pupils are sharing the activity.

  Researcher 1 - Cooperative sharing of materials

  Researcher 2 - Cooperative sharing of ideas, activities

- Target pupil walking at math centre delivering hearts with three other pupils. Teacher says "You are such good mailmen."

  Researcher 1 - Cooperative sharing of materials

  Researcher 2 - Cooperative sharing of ideas, activities

- Target pupil sitting on floor but has moved out of line. Watching teacher write numbers on board. Pupils are calling out. Teacher asks them to stop.

  Researcher 1 - Wait time in a conflict situation

  Researcher 2 - Wait time in a learning situation

The following three observations were coded in different categories.

- Target pupil sitting at desk cutting hearts. Teacher says "Does anyone need help or are we OK?"

  Researcher 1 - Using manipulatives

  Researcher 2 - Receiving directions

- Target pupil sitting on floor at front of room with class listening to teacher share a magic penny with a pupil. Pupils then move to desks singing, clapping to music.

Researcher 1 - Partaking in a group activity

Researcher 2 - Wait time in a learning situation

- Target pupil sitting on floor drawing shape on paper. Two other pupils are helping the target pupil.

Researcher 1 - Cooperative sharing of ideas, activities

Researcher 2 - Receiving information from a pupil

Descriptions of Daily Class Routines

The general observations were used to describe the daily routines in each classroom. The descriptions served as a background for the specific observations which were used to describe in greater detail the nature of classroom time spent in physical, social, and emotional program dimensions.

Study A

Ms. Eh's class was the only grade one class in the school and was located between the kindergarten and the grade two classrooms. The kindergarten teacher was at the school for half days only and there was little communication between the two teachers in regards to programming. The school had a split entry system for grade one pupils so that twelve pupils came at 8:45 and finished at 2:15 while eight pupils came at 9:45 and were dismissed at 3:30. Three of the second shift pupils were in a day care which was located in the school but Ms. Eh encouraged them to come to the classroom and provided work for them, allowing them to be in a setting with children of their own age rather than having to remain in the day care with the pre-school children.

The grade one classroom was spacious with attractively decorated

bulletin boards and tidy shelves. The twenty pupils each had their individual desks which were arranged in four rows with the teacher's desk in the front corner (Appendix 5). The bulletin boards on the front, side, and back of the room displayed instructional materials and charts while one smaller bulletin board at the back had some of the pupils' written and art work displayed. Pupils worked either at their desks, on the floor area at the front of the room, or at the table at the back of the room.

After being greeted at the door by Ms. Eh, pupils would remove their coats, hang them up and go quietly to their desks. Ms. Eh would then call for homework and pupils would bring their work up to her to be checked. Ms. Eh was concerned about teaching pupils responsibility and if the homework was not returned or complete, the pupils' reasons for not completing the assigned work were recorded and dated. After the homework assignments were recorded, Ms. Eh would work with the three children from the late shift, getting them started on some independent worksheets.

The first activity of the morning generally consisted of correcting mistakes from the previous day. Ms. Eh had the marked work laid out on the pupils' desks and they would work at their errors while she circulated to recheck the books. If a phonics spelling lesson was being corrected, individual pupils would write the words on the blackboard, one at a time, so that other pupils could correct their work from the board. As pupils completed their corrections they waited quietly at their desks until everyone was finished.

When errors had been corrected, Ms. Eh worked with the whole group on a language arts lesson. Pupils would sit in a group on the floor at

the front of the class for skill lessons such as letter sounds or compound words, or the uld sit at the back table to work at their readers or a worksheet together with the teacher. When the pupils read from their readers, they were assigned to be characters in the story and would take turns reading the speaking parts of those characters. If a pupil was a character in the story, a name card with that character's name was placed on the table for the pupil. When telephone conversations took place in the story the teacher provided the children with a toy telephone. Generally there were enough characters in the story for about one half of the pupils in the group, so reading turns would be rotated.

At 9:45 the late shift pupils arrived and the whole class went to the music room for a fifteen minute lesson with the music teacher. The lessons included singing, stories, and movement to music. After the music lessons, pupils were given a break to go to the bathroom and to get a drink. As they finished they returned quietly to their desks where they waited until everyone was ready to work again.

The next one half hour was used to teach phonics. The lessons usually consisted of spelling dictation using words which had a particular sound or rule. Ms. Eh dictated three or four words to the whole class and then circulated around the room, marking pupils' books. One of the lessons observed contained the following words: slang, stung, swing, strong, swung, wrong, bring, Wang, cling, thong, hung, hang, clung, long, fling, rang, Stang, thing, song, and rung. Another lesson consisted of these words: tangle, jungle, tingle, dangle, shingle, bangle, mingle, single, strangle, jingle, bungle, and Pringle. Ms. Eh would use each word in a sentence and explain its meaning as she

dictated the words. A fifteen minute recess followed at 10:30.

The math lessons were taught to the whole class as one group. The pupils all worked on the same pages in their math books or had the same worksheets. Part of the lesson was spent in oral work such as counting by twos, fives, or tens. One pupil would count while the others listened. Pupils would sit at the desks for part of the period and on the floor at the front for the rest of the time. Ms. Eh used blocks to demonstrate concepts or used the blackboard as a teaching aid. After math the pupils went for lunch from 11:45 to 1:00.

The school was involved in a nutrition program so Ms. Eh used the names of foods as words for the printing lessons. Pupils had the pages in their books organized according to the food groups and each day they would record the foods from the snack on the correct pages.

The next hour of the day was used for group lessons. The nutrition snack along with related activities such as printing and discussions on the sources of food products, an art lesson, and a social studies lesson on relating to one another were some of the activities observed. At 2:15 the pupils went out for recess and the early shift pupils went home. The last hour of the day was used to teach language arts to the late shift pupils and followed a similar format to the first hour of the day.

The pupils had two thirty minute physical education periods and two group science lessons on magnets and air during the observation period. They also went to the library once to exchange their library books. The class was always taught as a total group with the exception of the art lesson, music, and physical education periods when pupils worked independently in large group settings. Ms. Eh had been

recommended as an excellent teacher and she displayed a friendly attitude toward the pupils, often joking with them but ensuring that the pupils were orderly and attentive.

Study B

Ms. Bea's class was the only grade one class in the school and had 25 pupils enrolled. The kindergarten and grade two classes were not near the grade one classroom in the school but Ms. Bea worked closely with the kindergarten teacher in planning and coordinating the programs. The principal walked in and out of the classroom freely, staying to observe the class and to interact with the pupils.

The classroom was exceptionally spacious, allowing for individual pupil desks as well as a large area for centres (Appendix 6). The pupils' desks were arranged side by side in groups of three and the teacher's desk was located in the front corner of the room. The room was attractively decorated with instructional materials as well as with displays of pupil art work while the centres were tidy with materials easily accessible for the children. The teacher followed a pattern or flow for each day allowing for definitely scheduled activities as well as flexibility to build on the pupils' needs or interests for the day.

For the first fifteen minutes of the day pupils would interact with Ms. Bea or each other and then move on to independent activities at their desks. They would continue to work at these activities until everyone was settled and ready to take part in the opening exercises. One pupil was chosen by lot to be special person of the week and this person would lead the class in singing O Canada, saluting the flag, and saying a prayer. Pupils would then sing a song thanking for blessings

and friendships as they walked about the class greeting each other with a handshake. Pupils returned to their desks and continued to work quietly at their independent projects while the special person joined the teacher on a stool at the front of the class to call the roll. As the pupils' names were called they would reply by naming something for which they were thankful. If another pupil in the class was named as a friend for which the pupil was thankful, a reply of "thank you" would be made. Ms. Bea then gave instructions for activities which would follow after physical education so that pupils could get straight to work when they returned from the gymnasium. Pupils moved to the gymnasium and proceeded to set up the necessary equipment for the lesson without instructions from Ms. Bea. When equipment was set up and checked for safety, pupils went to work and the teacher instructed the lesson. At the end of the lesson, pupils again cleaned up the equipment and independently returned to the room for a drink and then to their work.

The next hour, from 9:30 to 10:30, occasionally included a short large group lesson but usually the pupils would work in groups at the centres or at their desks while Ms. Bea worked with small groups of pupils at a time. After recess a similar format of activities continued until lunch time.

The pupils returned from lunch at 1:10 and moved into a circle time at the front of the room for show and sharing. Pupils who had brought something to share also brought a story which they had written about their sharing. The story was read to the class by the pupil and then expanded verbally. The teacher glued the story into the pupil's "Show and Share" book and date stamped it. The time until recess at

2:15 was spent at the centres or in discussion times. After recess pupils spent time on writing projects, activities at centres, or in planning sessions for centres and future activities. Pupils were given opportunities to brainstorm for ideas for projects, vote on timetabling matters, and make decisions regarding their independent activities. They were responsible for cleaning up the room and organizing materials at the centres. Centres available in the room were film, listening, math, viewing, cooking, blocks, painting, sand, construction, table games, writing, housekeeping, skill games, poetry, and computer. Parents came to the classroom on Wednesdays to help at the centres.

School assemblies and Buddy Days were two regular school activities which involved all the classes in the school. Assemblies were held every other week while Buddy Days were scheduled on the alternate weeks. The assemblies consisted of school singing and special numbers by students. Two students from each class were awarded certificates recognizing achievement, effort, or special contributions to their class or to the school. For Buddy Days all the students in the school had been paired, older pupils with younger ones. For a half hour period students would meet with their buddies in assigned classrooms and the homeroom teacher would have a variety of activities for them to do together.

The option program was another whole school activity and was held once a week for one hour. Pupils were able to choose from options that were taught by parents and teachers, and multi-aged groups were then organized for each option. Groups met in the school, in private homes in the community, or in sports facilities. Some of the options available were swimming, cross country skiing, crafts, cooking, clay,

sculpturing, microwave cooking, knitting, baking, racquet ball, ceramics, drama, dot art, model trains, and pioneer skills.

The pupils in Study B were given a variety of opportunities to work in small groups in their own classroom or with pupils from other classes and different age levels. Ms. Bea was energetic, warm, and friendly and had been recommended as an excellent teacher. The pupils appeared relaxed, enjoyed interacting with one another, and eagerly participated in the learning activities.

Discussion of Specific Research Questions

The general observations formed a background for the research questions which are discussed on the basis of the specific observations. The four questions led to a more detailed analysis of physical, social, and emotional developmental program dimensions and the effect of the given environmental designs on each of these areas.

Research Question #1

What is the nature of the time spent in physical learning activities in each classroom setting?

The physical activities in each classroom setting were considered from two perspectives. More specifically, the actual physical positions and locations of the pupils in each classroom were analyzed. Secondly, the specific physical activities as they were used in learning and skill development were studied.

During the observations the physical position and location of each target pupil were recorded and then categorized. This information allowed the researcher to analyze how much time the target pupils spent

in each of six postures; sitting, standing, walking, kneeling, lying, and running. Table 1 indicates the number of minutes of the coded time that the target pupil spent in each position and the percentage of the total observed time which the number indicates.

Table 2 shows a breakdown of each of the physical postions. The pupils sat in five different types of locations for the specific activities:

At desks. Pupils in each classroom had their own desks which were used as individual work spaces. In Study A the pupils worked at assignments or received instruction as a part of the total class setting while sitting in their desks. In Study B pupils were in their desks as part of a whole class setting but also worked at independent activities in this location while the rest of the class members may or may not have been at their desks.

On floor. The teachers in both classrooms used an area of floor space in the classroom for the pupils to sit for group activities such as story time, sharing, discussions, or instructions. Pupils also sat on the floor in the gym while listening to instructions or participating in an assembly.

At centres. The classroom in Study A did not have centres but the pupils in Study B sat at a variety of centres such as film, listening, math, painting, games, and construction.

At table. A table with chairs was part of each classroom setting. In each class the time spent at the table was used by the teacher for group instruction.

On chair/step. In both studies the pupils sat on chairs or steps in the music room for large group music instruction.

Table 1

The Number of Minutes Target Pupils Spent in Six Physical Positions in Each Study

Physical Positions:	Study A		Study B	
	Minutes	Percentage	Minutes	Percentage
Sitting	352	73.3%	304	63.3%
Standing	80	16.7%	80	16.7%
Walking	18	3.8%	58	12.1%
Kneeling	18	3.8%	14	2.9%
Lying	8	1.7%	16	3.3%
Running	4	0.7%	8	1.7%
	480	100.0%	480	100.0%

Table 2

Breakdown of Physical Positions of Target Pupils

	Study A		Study B	
	Minutes	Percentage	Minutes	Percentage
Sitting:				
At desks	230	47.9%	160	33.3%
On floor	54	11.3%	60	12.5%
At centres	0	0.0%	46	9.6%
At table	48	10.0%	22	4.6%
On chair/step	20	4.2%	16	3.3%
	352	73.3%	304	63.3%
Standing:				
Waiting in line	30	6.3%	2	0.4%
Other	50	10.4%	78	16.3%
	80	16.7%	80	16.7%
Walking:				
To new learning activity	6	1.3%	22	4.6%
Other	12	2.5%	36	7.5%
	18	3.8%	58	12.1%
Kneeling:				
At desk	10	2.1%	4	0.8%
On floor	8	1.7%	6	1.3%
At centre	0	0.0%	4	0.8%
	18	3.8%	14	2.9%
Lying:				
Part of gym or drama lesson	4	0.8%	16	3.3%
Part of learning group	4	0.8%	0	0.0%
	8	1.7%	16	3.3%
Running	4	0.7%	8	1.7%

The standing positions by pupils in each classroom have been categorized under two major headings:

Waiting in line. These times were recorded while pupils were waiting in line to go to physical education, music, library, or to have work checked.

Other. Pupils would either be standing as part of an activity or might choose to stand beside their desks to work rather than to be seated.

Walking was used as a means of locomotion in both classrooms. Pupils walked to a new location or during another activity such as collecting books or setting up equipment in the gymnasium.

Kneeling was used as a substitute for sitting at each of the locations where it was observed.

Lying was used as part of physical education and drama lessons. In addition, pupils would occasionally lie down on the floor when they were part of a learning group assembled on the floor.

Running was observed in the physical education lessons in both settings.

The time spent by the pupils in the different physical positions indicates a number of factors concerning the two environments. Sitting, standing, kneeling and lying are stationary positions while walking and running are active. In Study A 95.5% of the pupils' time was spent in stationary positions while 4.5% was spent in active movement. The pupils in Study B were in stationary positions 86.2% of the day and 13.8% of their time was spent in movement.

The pupils in Study A spent 6 minutes walking from one learning situation to another while pupils in Study B spent 22 minutes walking

for this purpose. Pupils in Study B walked from one learning activity to another 3.5 times as often as the pupils in Study A which may indicate that they spent a shorter period of time at each location.

The percentages on Table 2 also indicate that pupils in Study B spent less time sitting and more time in other positions than the pupils in Study A. Pupils in Study A spent an average of 88 minutes in each of the four sitting locations while pupils in Study B averaged 60.8 minutes in each location. Kneeling, in each of the observations recorded, was used as a substitute for sitting and was considered an appropriate position for the activities in which the pupils were engaged.

The data gathered in the two studies were also categorized into three areas of physical activities. Table 3 shows the number of minutes which the target pupils spent in each area during the observation times.

Gross Motor Activities

Developing gross motor skills: Gross motor activities were grouped here. Playing floor hockey, moving to music, and taking part in creative drama were the activities observed in this area. Some examples of these behaviours observed were:

- Target pupil walking about the music room dramatizing a character.
- Target pupil acting as character being attacked by trolls. Teacher coaching pupils as the music plays.
- Target pupil running with hockey stick. Playing right defense in hockey game.

Table 3

Physical Development Dimensions

With Minutes and Percentages out of 480

	Study A		Study B	
	Minutes	Percentage	Minutes	Percentage
Gross Motor:				
Developing skills	14	2.9%	12	2.5%
Using skills	14	2.9%	50	10.4%
	28	5.8%	62	12.9%
Fine Motor - Pencil/Paper:				
Closed structure:				
Printing	52	10.8%	48	10.0%
Other	2	0.4%	4	0.8%
Open structure:				
Printing	0	0.0%	8	1.7%
Other	4	0.8%	20	4.2%
	58	12.0%	80	16.7%
Fine Motor - Manipulatives				
Cutting/pasting	8	1.7%	14	2.9%
Materials	0	0.0%	18	3.8%
	8	1.7%	32	6.7%

Using gross motor skills: Pupils used gross motor skills in various ways throughout t ay. In both classrooms pupils walked to new locations, collecte books or papers, and set up and put away equipment in the gymnasium. In Study B pupils also walked about as part of their activities at the centres. Some examples of these behaviours observed were:

- Target pupil walking at math centre delivering number fact Valentines into mailboxes. Four pupils are sharing the activity.
- Target pupil helping to set up gym equipment for floor hockey. All pupils cooperating to set up equipment.
- Target pupil walking to coat room to get ready for recess.

Fine Motor Skills - Pencil/Paper

Pencil and paper as well as colouring activities were included in this category.

Closed structure activities: The activities in this group were further divided into printing activities and activities such as colouring a worksheet or tracing a pattern. Some examples of these behaviours were:

- Target pupil sitting at desk printing letters in book. Teacher holds up a pupil's paper and says "That's my first treat." Everyone claps for the pupil's excellent work.
- Target pupil sitting at desk, colouring a worksheet.
- Target pupil sitting at table tracing a shape onto cardboard.

Open structure activities: These activities were again divided into printing activities and activities which did not involve printing. Printing activities observed were creative writing while

non-printing activities included drawing or colouring pictures. Some examples of these behaviours were:

- Target pupil sitting at desk drawing 'K' pictures. Teacher circulating and helping pupils.
- Target pupil sitting at table writing own Valentine message on shape. Pupils around table chatting about Valentine's Day as they work.
- Target pupil sitting at listening centre drawing pictures on worksheet.

Fine Motor Skills - Manipulatives

These activities were divided into two categories. Cutting and pasting activities were separated from activities which involved the handling of materials such as blocks or tiles. Some examples of these behaviours observed were:

- Target pupil sitting on floor cutting out paper face. Teacher at back table folding paper springs for pupils who had trouble.
- Target pupil sitting at table manipulating tiles. Teacher says "Excellent, very good."
- Target pupil sitting at table stirring icing sugar and egg whites for project.

Sensory Awareness

Both classrooms were involved in nutrition programs so that pupils had opportunities to taste a variety of nutritious foods. The researcher scheduled nutrition times for coded observations in both classrooms but because of some last minute timetable changes in Study A, due to the cancellation of recess, the nutrition activities were not coded in the timed observations. This category, therefore, was not

included in the analysis of the data.

The time spent in developing gross motor skills was very similar in both studies while the time spent in using these skills was three and one half times higher in Study B. The use of fine motor pencil/paper activities also differed between the two studies. The times spent in closed structured activities were similar but the pupils in Study B had seven times as many opportunities to be involved in open structured activities. The pupils in Study B spent four times as much time with manipulative materials.

Research Question #2

What is the nature of the time spent in social development activities in each classroom?

The social development activities were categorized under cooperative sharing, receiving information, and giving information. Some additional social activities such as conflict, wait time, interactions or activities not directly related to expected learning, and other activities such as cleaning up and bathroom breaks were observed as well.

The observed behaviours in cooperative sharing were categorized under four headings.

Ideas, planning and dialogue. Pupils were given opportunities to verbally interact in their learning. The teacher may or may not have been part of the interactions but the emphasis was on having the pupils express their ideas, to plan their activities, and to dialogue with one another in learning situations. Some examples of observed behaviour were:

- Target pupil standing at another pupil's desk discussing a book about

cats, sharing information. Teacher helping pupils select books.

- Target pupil walking at math centre delivering hearts with number facts. Pupils chatting about number facts and helping each other.
- Target pupil sitting at listening centre with book discussing with pupils what to draw in the next box.

Materials. Pupils had opportunities to share materials or equipment. Some examples of these behaviours were:

- Target pupil sitting at computer working on a program with a pupil and a parent, taking turns.
- Target pupil walking at math centre delivering number fact Valentines into mailboxes. Four pupils are sharing the activity.
- Target pupil standing at computer centre with another pupil. Claps hands as pupil gets the right answer. Target pupil says "Good girl."

Group sharing - games, drama, singing. Pupils had opportunities to interact through games, drama, and singing in whole class settings or in small groups. These activities were recorded in the gymnasium, music room, and the classroom. Some examples of these behaviours were:

- Target pupil walking about the music room dramatizing a character. Has big smile on face, enjoying individual attention of being chief character.
- Target pupil lying on floor being part of a road for drama. Class dramatizing story which they have just read.
- Target pupil standing in centre of gymnasium with hockey puck. Is referee for hockey game and is waiting to drop the puck.

Group discussions. The target pupils were part of a group where they had the opportunity to listen to other pupils and to share their own ideas. The teachers were involved as leaders of the groups in both

classrooms. Some examples of these behaviours were:

- Target pupil sitting at back table listening to teacher lead discussion on how pupils have felt in a new situation. Teacher makes positive comments about individual pupils' responses.
- Target pupil sitting on the floor with rest of class brainstorming ideas for centres.
- Target pupil sitting at desk listening to a pupil talk about juice during a teacher led discussion on nutrition.

Pupils received information in a number of ways in both classrooms. The observations were categorized under four headings.

Receiving information. Pupils were taught information or given specific directions or instructions to help them learn a new skill. Letter sounds in a phonics lesson, information about food groups in a nutrition lesson, or facts about Alberta in a Social Studies lesson were some observed behaviours. Some examples of pupils receiving information from the teacher, a parent, or the listening centre were:

- Target pupil sitting in chair listening to teacher give instructions on how to play musical instruments.
- Target pupil sitting at listening centre listening to story and following along in book. Four pupils with a parent at the centre.
- Target pupil squatting on chair watching teacher explain map.

Pupils also received information from other pupils in the class. Some examples of this type of learning were:

- Target pupil sitting at back table following along in book listening to another pupil read.
- Target pupil sitting on floor in front of room hugging stuffed toy and watching intently as another pupil shows a butterfly for show and

share.

- Target pupil sitting at desk laughing at a story being told by another pupil.

Receiving directions, help, or asking. Pupils received directions or instructions regarding organization of an activity or work. Listening to announcements or asking for help were also included in this category. Some examples of observed behaviours were:

- Target pupil sitting at desk with both feet in aisle, watching teacher who is explaining how to number lines in scribbler.
- Target pupil sitting on floor in front with the rest of the class listening to teacher give instructions for the next activity.
- Target pupil sitting at desk listening to announcement on the public address system.

Reading/looking at a book. The observations recorded here were of pupils reading or looking at books independently. In Study A the pupils were not reading from books but rather were reading stories from worksheets which the teacher provided. Some examples were:

- Target pupil standing at desk reading a cat book softly to self.
- Target pupil sitting at desk reading book independently.
- Target pupil standing beside desk with elbows on desk reading worksheet.

Being read a story. The teacher read or told the pupils a story. Some examples which were recorded were:

- Target pupil kneeling on the floor at front of room with class listening to teacher tell a story about sharing love.
- Target pupil sitting on step listening intently to teacher tell a story about a composer.

- Target pupil sitting on floor listening to teacher read the book Awful Thursday.

Pupils in both classes had opportunities to give information to the class. Show and tell sessions, answering questions, or giving instructions or help were behaviours observed in this category. Some examples recorded were:

- Target pupil standing at desk helping another pupil with printing. Teacher is helping individual pupils.
- Target pupil standing at desk, hand in air, responding with 'house' to a question from a pupil in front. Teacher says "A clap for a smart pupil."
- Target pupil sitting at back table responding to teacher's questions about having been sick.

Table 4 summarizes the time spent in social development activities in each study. The pupils in Study A spent 2.9% of their time interacting with other pupils while the pupils in Study B had this opportunity for 26.3% of their time in the classroom. The pupils in Study B had nine times as many opportunities to develop social relationships through the exploration and sharing of ideas and materials with their peers.

The amount of time that pupils received direct information by being taught was similar in both classes and the pupils in each class spent approximately the same amount of time reading or looking at books. The significant difference between the two classes was in the time pupils received directions or help and the amount of time that they were read to by the teacher. The fact that the pupils in Study B were involved in more types of activities and at a variety of centres

Table 4

Social Development Activities

With Minutes and Percentages out of 480

	Study A		Study B	
	Minutes	%	Minutes	%
Cooperative Sharing:				
Ideas, planning, dialogue	6	1.3%	28	5.9%
Materials	0	0.0%	38	7.9%
Group - Games, Drama, Singing	6	1.3%	36	7.5%
Group - Discussion	2	.3%	24	5.0%
	14	2.9%	126	26.3%
Receiving:				
Information (being taught):				
By teacher, parent, listening centre	20	4.2%	24	5.0%
By another pupil	12	2.5%	14	2.9%
Directions, help, asking	30	6.3%	52	10.8%
Reading/looking at book	4	.8%	6	1.3%
Being read a story	16	3.3%	6	1.3%
	82	17.1%	102	21.3%
Giving:				
Instruction, help, information, answering to the class	16	3.3%	6	1.3%

which required directions and organization may have resulted in a greater amount of time spent in giving directions. The pupils in Study A were always in a total group setting. As a result, the task of providing directions was not as complex since all pupils in the class received the same instructions. Although the recorded times in both classes were relatively low, the pupils in Study A were read stories by the teacher two and one half times as often. The amount of time pupils spent in giving information in the class setting varied as well. The fact that the pupils in Study B spent a considerably greater amount of time in cooperative sharing may be the reason for the lower amount of time spent in giving instructions, help or information in the total class setting. Since the pupils in Study A rarely interacted with other pupils they received more time to share in a large class setting than did the pupils in Study B.

Research Question #3

What is the nature of the time spent in emotional development activities in each classroom setting?

The overall climate in each classroom was friendly and both teachers had a pleasant manner with the children. Three areas of emotional development activities were observed and recorded in each study. These categories consisted of expressing or exploring feelings, making personal decisions, and receiving praise. Table 5 summarizes the time spent in each of these categories.

Expressing or exploring feelings. Pupils were given opportunities to express or explore feelings in a group setting or on an individual basis. The teacher was involved in each of the opportunities observed.

Table 5

Emotional Development Activities

With Minutes and Percentages out of 480

	Study A		Study B	
	Minutes	%	Minutes	%
Expressing or exploring feelings	2	.4%	14	2.9%
Making personal decisions	2	.4%	20	4.2%
Praise: By teacher	4	.8%	36	7.5%
By another pupil	0	.0%	8	1.7%

Some examples were:

- Target pupil sitting at back table listening to a teacher led discussion on how pupils have felt in a new situation.
- Target pupil sitting at desk. Most of the pupils on the floor at the front. Teacher talking about body posture. Teacher says "If someone does something mean to you try doing something nice back to them."
- Target pupil sitting at desk working in math workbook while special person is calling the roll and pupils responding by naming something for which they are thankful.

Making personal decisions. Pupils were given opportunities to either plan their own learning or were free to choose from a number of activities which were available to them in the classroom. Some examples of observed behaviour were:

- Target pupil running with hockey stick playing right wing. Twelve pupils are playing hockey, one is skipping, two have bean bags and bats, two are playing catch with a ball, two are watching, and two are organizing their own game.
- Target pupil sitting on floor listening to teacher say "You may choose whatever you like. You can't make someone else's space an unhappy place." Pupils choose activities.
- Target pupil kneeling on floor at front with class for planning session. Pupils are brainstorming for activity ideas.

Praise. Examples of target pupils being praised by the teacher as well as by their peers were observed. The observations were recorded if the praise was directed specifically at the target pupil or at a group of which the target pupil was a member. Some examples of praise by the teachers were:

- Target pupil lying on stomach on the floor listening to teacher count with a pupil. Teacher says "You should be going down the hallway to the grade four room."
- Target pupil walking to front of assembly to receive award for being a good leader in the class. Whole school applaudes.
- Target pupil sitting at desk colouring decorations. Teacher says "I noticed people are sharing and that's special. That really makes it a Valentine day when you do that."

Some examples of praise by pupils were:

- Target pupil sitting at desk listening to pupils thank grade six group for a skit which has just been presented.
- Target pupil standing at computer centre working with pupil. Claps hands when pupil gets the right answer. Target pupil says "Good girl."
- Target pupil sitting on gym floor applauding for division two song.

Activities not directly outlined as social development activities, but affecting the social and emotional development of pupils, are summarized in Table 6. The amount of time spent in dealing with conflict in Study A was considerably higher than that time spent in Study B. Forty of the fifty four minutes of recorded conflict in Study A dealt with pupils being asked to be quiet, sit still, or pay attention, while six minutes were spent in this type of conflict in Study B. The pupils in Study A were always part of a total class teacher-directed group and it appears that the teacher may have been required to spend more time to focus the attention of all the pupils on the same activity at the same time. In Study B the children were more actively involved in learning by interacting with one another and

Table 6

Additio[illegible] Social and Emotional Activities

With Minutes and Percentages out of 480

	Study A		Study B	
	Minutes	%	Minutes	%
Dealing with conflict:				
Pupil-pupil conflict with teacher intervention	2	.4%	0	.0%
Teacher-pupil conflict with target pupil involved as an individual or part of the group	24	5.0%	6	1.3%
Target pupil wait time while teacher deals with conflict involving pupils other than target pupil	28	5.8%	4	.8%
	54	11.2%	10	2.1%
Wait time:				
In a learning situation	66	13.8%	12	2.5%
For next activity	138	28.7%	8	1.7%
	204	42.5%	20	4.2%
Interactions/activities not related to expected learning	10	2.1%	6	1.3%
Other:				
Cleaning up, bathroom breaks, etc.	20	4.2%	34	7.1%

working at a variety of centres so that the teacher did not face the problems of focussing the attention of all the children on the same task for long periods of time.

When the conflict time in each study is combined with the amount of praise received by pupils (Table 5), the following comparison can be made. In Study A four minutes were spent in praising the pupils while fifty four minutes involved conflict, resulting in thirteen and one half times as much conflict as praise. In Study B forty four minutes of praise were recorded as opposed to ten minutes of conflict resulting in nearly four and one half times as much praise as conflict.

The amount of wait time in each class may also be related to the environmental designs. Because the pupils in Study A always worked as a total class group, a great deal of wait time resulted as individual pupils were required to wait until everyone in the class was ready to proceed. In Study B the organization of the class and routine allowed pupils to select activities and to work in small groups or independently for a large part of the day. Pupils were free to move to another activity when they were finished so that they experienced very little wait time. The differing environmental designs appeared to have a direct effect on the amount of wait time which pupils experienced.

Both classes had very few interactions or activities not related to expected learning. The observations coded here related to the target pupils engaging in an activity or interaction other than the one which the teacher intended at that particular time. The interactions recorded were observed by the researcher but not dealt with by the teacher. These times were in addition to the times categorized under conflict where the pupils may have been off task but the teacher was

dealing with the situation. Some examples of behaviours observed were:

- Target pupil sitting at desk chatting with pupil about day care. Pencil stuck in hair, no shoes on. Teacher walking around getting pupils settled.
- Target pupil standing at back of room chatting with pupil.
- Target pupil sitting in chair beside another pupil, chatting about erasers. Picks up pencil and copies pupil's number onto own sheet.

The pupils in Study B spent more time in other classroom activities such as cleaning up. The large number of activities and manipulative materials available to the children may have resulted in the additional time required for this type of activity.

Research Question #4

What is the effect of the given environments on the program dimensions?

Table 7 is a comparison of the two environmental designs. The time spent in each classroom activity has been calculated on the basis of a normal 300 minute school day. This information allows for a comparison of the two classroom environments on the basis of what a school day would be like for an average pupil in each study. The two classrooms were very similar in the amount of time spent in the following areas:

1. Closed structure pencil/paper activities.
2. Receiving information from teacher.
3. Receiving information from another pupil.
4. Reading a book.
5. Interactions not directly related to expected learning.

Table 7

Learning Minutes Computed for a 300 Minute Day

	Study A		Study B	
	Min.	%	Min.	%
Activities related to learning:				
Pencil/paper (closed structure)	34		34	
Pencil/paper (open structure)	2		17	
Manipulatives	5		20	
Cooperative sharing - ideas	4		17	
Cooperative sharing - materials	0		24	
Group activities - drama, singing	4		23	
Discussion group	1		15	
Receiving information from teacher	13		15	
Receiving information from another pupil	8		9	
Reading a book	3		4	
Being read to	10		4	
Receiving directions/help/asking	19		29	
Giving information/answering	10		4	
	113	37.7%	215	71.7%
Additional social/emotional dimensions:				
Interactions not related to expected learning	6		4	
Conflict between teacher & pupil/class	15		4	
Confict between teacher & other pupil(s)	17		4	
Wait time in learning situation	41		8	
Wait time the for next activity	86		5	
	165	55.0%	25	8.3%
Other:				
Bathroom, dressing, cleanup, etc.	11		24	
Walking to new location	11		36	
	22	7.3%	60	20.0%
	300	100.0%	300	100.0%

The two settings differed in a number of ways. Pupils in Study A spent more time in activities related to the following:

1. Being read to by the teacher.
2. Giving information and answering.
3. Conflict.
4. Wait time.

Pupils in Study B spent more time in the following:

1. Open structure pencil/paper activities.
2. Using manipulatives.
3. Sharing ideas.
4. Sharing materials.
5. Participating in group activities such as drama and singing.
6. Participating in discussion groups.
7. Receiving directions or help.
8. Activities such as cleaning up.
9. Walking to a new location for another activity.

The percentage of time pupils spent in activities related directly to expected learning was 90.3% higher in Study B than in Study A while the time spent in areas such as conflict and wait time was 560% higher in Study A. Pupils in Study B spent nearly three times as much time in other activities such as bathroom breaks, cleaning up or walking to a new location than did the pupils in Study A.

Summary

The general observations and the categorization of the specific codings were used to describe the physical, social, and emotional aspects of the classroom in each study. A comparison of the effect of

the given environmental designs on the program dimensions showed that the pupils in Study A were involved in considerably more conflict and wait time than the pupils in Study B. The pupils in Study B, on the other hand, were involved to a much greater extent in cooperative sharing of ideas and materials, making decisions regarding their learning, using manipulatives, using gross motor skills and movement, and being involved in creative pencil and paper activities. The amount of time spent in closed structured pencil/paper activities, receiving information from the teacher or another pupil, reading a book, or in interactions not directly related to expected learning was very similar in the two classrooms.

CHAPTER V

FINDINGS, IMPLICATIONS, RECOMMENDATIONS, AND CONCLUSIONS

This chapter contains a brief summary of the study, main findings, implications, recommendations for further research, and conclusions.

Summary of Study

The purpose of this study was to describe the actual classroom time spent by eight target pupils in physical, social, and emotional aspects of development in two grade one settings of different environmental design. The environmental designs of the classrooms included the arrangement of the physical space as well as the use of time and materials. The descriptors for the environmental designs were based on classrooms described in Articulation Linkages (Pain, 1984) and may have reflected the philosophies of the teachers regarding how young children learn. The descriptors included information on the physical settings, the use of basic teaching materials, and the procedures for implementing and evaluating the programs. The classroom in Study A had desks arranged in rows and the teacher followed the reading and mathematics guidebooks in the given sequence. The class was taught as a large group with all the pupils covering the same materials, and the teacher directing all activities. The involvement of parents and pupils in planning, delivering, and evaluating the program was minimal and there was no cooperative planning with the kindergarten teacher.

The teacher in Study B utilized learning centres and used teacher guidebooks as references. Instruction was based on the needs and interests of the pupils through large group, small group, or individual instruction, and pupils as well as parents were involved with the teacher in the planning, delivery, and evaluation of the program. The kindergarten and grade one teachers planned cooperatively for some activities for the children in both classes.

The nature of time spent in the classroom, along with physical arrangement and the use of materials were considered to be important aspects of the environmental designs. The data were categorized according to the physical, social, and emotional developmental program dimensions as outlined in Early Childhood Services: Philosophy, goals and program dimensions (Alberta Education, 1984), and were used, along with general observations, to describe the nature of the time spent in these program dimensions in each classroom. These descriptions led to a comparison of the effects of the given environmental designs on the program dimensions.

Findings

Young children need sufficient time and space, as well as appropriate materials, to help them grow and to develop into happy, responsible adults. The encouragement of adults, the love and caring of those around them, and the feelings of success teach them that they are worthwhile people, giving them the confidence to reach out to new experiences. Cohen (1978) has summarized some of the basic needs of young children regarding their physical, social, and emotional growth.

> As we come to rely on the mechanics of doors that open silently before us, of buttons and levers that keep us from exerting "unnecessary" physical effort, let us not fail to remember that the basis for competence in childhood is the competence of the body in action, its ability to function, and its mastery of the environment through physical means.
>
> As we avail ourselves of the retrieval systems that often help us avoid doing our own thinking, let us bear in mind that the computer is a product of the human brain, no more than a giant adding machine, and that unless the mind of a child is allowed to develop fully through trial and error, exploration and experimentation, it will not develop beyond the level of the adding machine itself.
>
> We must not evade the reality that to be human is to feel as well as to think, and feeling cannot be systematized, packaged or taught. It must be experienced within the context of meaningful interaction with people and the environment. Above all, we must expect that feeling will embrace others as well as oneself. We must stress the social responsibility of each for all and of all for each.
>
> (Cohen, 1978, p. 26)

Educators must recognize that these areas of development are crucial in helping children learn. This study has considered how some of these developmental needs of children in two grade one classrooms were being met. Some specific aspects of the physical, social, and emotional program dimensions were observed and the findings summarized.

Physical Development. A brief comparison of the time spent by pupils in each of the two classrooms observed shows that the pupils in Study A spent 95.5% of their day in stationary positions such as sitting, standing, kneeling, and lying, and 4.5% of the time in active movements such as walking or running. Pupils spent 5.8% of the time developing and using gross motor skills. Twelve percent of the time was spent in pencil/paper activities and most of this time was spent in

closed structured activities. No manipulative materials were used by the pupils during the observation periods.

The pupils in Study B spent 86.2% of their classroom time in stationary positions and 13.8% in movement while time spent developing and using gross motor skills amounted to 12.9%. Fine motor pencil/paper skills were used 10.8% in closed structured activities and 5.9% in open structured activities. Manipulative materials were used for 3.8% of the time.

Children need opportunities to experiment with touch, taste, smell, sight, and sound as they try to understand their world and begin to develop social relationships. They need to engage in physical activities to release built up tension in their bodies (Butler, 1978; Lowenfeld, 1969; Stamm, 1976) and to develop physically so that they can learn to control their bodies and master their environment (Butler, 1978; Lowenfeld, 1969). The pupils in Study B had more opportunities for physical change of position and spent a significantly greater percentage of time using gross motor skills than did the pupils in Study A. The activities in Study B may have allowed pupils more opportunities to develop concepts and fine motor skills through the use of manipulatives while the absence of manipulative materials for pupils in Study A may indicate that the development of fine motor skills through the use of concrete materials was not considered necessary. It appears that the environmental design of the Study B classroom may have been more suited to meeting the physical developmental needs of the pupils than the design of the classroom in Study A.

The environmental designs of the classrooms may also have influenced the type of pencil/paper activities which were used. In

Study A 93% of the pencil/paper activities were closed structured while in Study B 65% were of this nature. The design of the classroom in Study A required pupils to work as individuals in their desks at teacher directed activities. This arrangement may have been more conducive to activities which resulted in predetermined products since all students were required to cover the same material. The centre-based program in Study B, where pupils worked cooperatively in small groups and shared in the planning of the program, may have encouraged more open structured activities since the program was designed to meet the individual needs and interests of pupils and resulted in a variety of ideas and products. The environmental designs of the classrooms including the use of space, materials, and time seem to have influenced the use of open structured activities for the pupils. The use of centres which allowed for frequent movement, the use of manipulatives, and the involvement of pupils and parents in planning and implementing a program based on the needs and interests of pupils appeared to be some of the factors in the environmental design which affected the opportunities which children were given to be involved in physical development activities.

Social Development. Early social relationships are established through play with concrete materials and interactions with other children or adults (Elkind, 1981; Stamm, 1976; Weininger, 1982). The pupils in Study A were given opportunities for interactions with their peers for 14 out of 480 minutes while the pupils in Study B had 126 minutes for cooperative sharing of ideas and materials in the same amount of time. In Study A pupils were involved in sharing ideas, plans, activities, or materials for six minutes during the observation

period. This amount of time may not have been sufficient to develop skills in sharing ideas with others, learning to plan and dialogue with other individuals, or to work out problems involved in sharing materials. The pupils in Study B spent 66 minutes in this same type of sharing. This amount of time may have allowed the pupils to explore, through interaction, their relationships with others and to build problem solving skills. Even at times when the children were seated at their desks they had opportunities to interact because their desks were arranged side by side in groups of three rather than in rows which tend to isolate pupils from one another.

The amount of time during which pupils had opportunities to participate in group activities such as singing, games, drama, and discussion was significantly higher in Study B. The pupils in Study A spent a total of eight minutes in these activities while the pupils in Study B spent 60 minutes in group sessions of this nature. During these activities pupils were encouraged to listen to one another, share ideas in a larger group, and to follow rules often established by adults. The skills developed through activities are important in helping children become members of the larger society. It appears from this study that the environmental design of the classroom in Study B was more suited to helping pupils develop social relationships through interactions with others than the classroom in Study A.

Abilities to receive and give information are important social skills required by children and adults. The pupils in Study A received information through instruction and reading for 82 minutes and the pupils in Study B for 102 minutes while pupils spent 16 minutes in Study A and 6 minutes in Study B giving information to other class

members. The percentage of time spent in receiving and giving information was 20.4% Study A and 22.6% for Study B, a relatively small difference. A greater difference, however, was noted in the time spent receiving directions, help, or asking questions. The pupils in Study A spent 30 minutes while the pupils in Study B spent 52 minutes in these activities. The environmental designs of the classrooms may have had a direct effect on these times. Since the pupils in Study A spent their time in whole class teacher-directed activities the time required to organize and give instructions may have been less since all of the pupils were receiving the same directions at the same time. The centre activities and small group work in Study B required more organization and planning time on the part of the teacher and pupils. Buddy Days, an option program, and assemblies were total school activities in which children from all grades intermingled and time was required to organize and give directions for these programs. Since these activities were part of the regular school week the time required to organize and run these programs was reported in the study. The interactions with pupils from different age and grade levels gave pupils additional opportunities to develop socially.

Neither teacher had a regularly scheduled storytime for the children so the times observed of the teacher reading to the class were relatively low. The observed times of the teacher reading to the class was higher in Study A because a pupil brought a book to the teacher and asked whether it could be read to the class. The teacher reorganized the schedule and took time to read the book to the pupils.

The pupils in Study A spent 16 minutes in giving information, instructions, help, or answering in the class setting while the pupils

in Study B spent six minutes in the same activities. Since the classroom environment in Study B gave pupils opportunities to interact and relate on an individual and small group basis more often than the pupils in Study A, less time may have been spent in similar activities in the whole class setting. The pupils in Study A did not have opportunities to interact individually and therefore were given more time to share information in the total class setting. The sharing in this category was, however, more directed than the interactions grouped under cooperative sharing. The pupils were either answering questions which required a predetermined answer or were giving specific information asked for by the teacher. The interactions recorded under cooperative sharing tended to be more open-ended, allowing pupils to express their own ideas and give their viewpoints rather than replying to specific questions.

The pupils in Study B appear to have had more opportunities in their classroom to interact with one another and thereby develop social skills. They spent nine times as much time involved in the cooperative sharing of ideas, materials, and activities; seven and one half times as much time in singing, games, drama, and discussions; and were involved regularly in activities in which they interacted with children from all the classes and grade levels in the school. Wasserman (1974), in her observations of the "Organic Day" open classroom, found that cooperative sharing experiences contributed to the development of interpersonal relationships. The classroom in Study B was similar to the "Organic Day" program in that it gave the children many opportunities to interact and to learn with and from each other thereby enhancing their social development. The data gathered through

observations in the two classrooms in this study indicate that the environmental design of the classroom in Study B gave the pupils more opportunities to interact and therefore was more suited to adequately meet the social development needs of young children.

Emotional Development. Children need opportunities to express or explore their feelings and to experience success in order to promote positive emotional development. Their emotional development may also be enhanced by making personal decisions to increase independence. The pupils in Study B were given seven times as many opportunities to explore their feelings, made personal decisions ten times as often, and were praised eleven times more than the pupils in Study A. The opportunities to explore emotions involved not only expressions of feelings but included discussions, stories, songs, and interactions which helped children to form positive attitudes toward life and to consider the feelings of others. Although pupils in both classes were encouraged to make positive comments to fellow class members and to recognize the efforts and accomplishments of others without creating a competitive atmosphere, the environmental design of the classroom in Study B appeared to be more conducive to other aspects of emotional development. Since the children worked and interacted as individuals or in small groups for a large part of the day, they needed to make personal decisions regarding their learning activities and thereby develop independence in their thinking and actions. In order to work successfully in the centre-based classroom pupils had to learn to control their own actions and feelings while at the same time respecting those of the other pupils. Stress was placed on these values not only in the large group setting but also in individual and

small group activities. Pupils were given many opportunities to apply these skills in a practical way throughout the day. Since the interpersonal interactions in Study A were very limited, the pupils did not have the same opportunities to develop these skills.

Conflict and wait time are part of classroom life and can affect the social and emotional development of children. The pupils in Study A spent 55% of their day in interactions involving conflict and wait time while the pupils in Study B spent 8.3% of their time in these activities. The pupils in Study A worked as part of the total group on the same task at the same time and observations were coded as conflict time when the teacher asked pupils to sit still or to pay attention to the lesson. The need to focus and maintain the attention of all pupils on the same task for long periods of time resulted in this type of conflict. Pupils were also required to spend more time waiting for everyone to be settled or ready to continue with learning activities since the class was always taught as a large group. When pupils in Study B entered the classroom, they worked on independent tasks until all pupils were ready for a formal beginning to the day, thereby reducing wait time. The activities at the centres tended to be open-ended so that pupils could extend learning activities or move to another centre, again eliminating long periods of wait time. If a pupil needed to be reprimanded, the conflict tended to involve only the teacher and the individual pupil while the rest of the class members continued at their activities, resulting in minimal wait time for other pupils while the teacher dealt with conflict. It appears, therefore, that the environmental design of the classroom in Study B solved some of the problems relating to conflict and wait time in the classroom by

having pupils work independently for a significant part of the day rather than as part of a large group.

Impact of the Environmental Design on Program Dimensions. The environmental design affects the physical, social, and emotional aspects of the classroom. Wasserman (1974) studied the academic achievements in reading and language skills as well as the attitudes of students toward reading and school in general in the context of an environmental design which she termed an open classroom. She discovered that the achievement levels of the project children were comparable to those in the control group but found a dramatic difference between the project and control children in the area of attitudes. If the environmental design can affect the attitudes of pupils it may also affect the physical, social, and emotional development of young children. The social development of the pupils in Study B was enhanced because they had more opportunities for cooperative sharing, personal decision making, movement, exploration with manipulatives, and creative pencil/paper activities. The wide range of activities available to pupils, as well as opportunities to proceed as individuals or as part of a small group to different learning activities, may have resulted in much less time spent in conflict and in wait time. This setting, however, resulted in more time being spent moving to new locations and in cleaning up activities.

The study Articulation Linkages (Pain, 1984) outlined a number of conclusions which were used as a base for further comparisons of the effects of the given environments on the program dimensions in this study.

1. Study A tended to stress the academic development of the pupils with the entire class working at the same material. Study B tended to emphasize the development of the individual child, having a wide range of open-ended activities which allowed for varying levels of academic, physical, social, and emotional development.
2. The pupils in Study A were taught to accept responsibility through homework assignments, corrections made in daily work, and by returning library books. The pupils in Study B were encouraged to develop responsibilty by making choices and working independently. They were encouraged to be responsible for their behaviour as well as for completing tasks which were assigned or voluntarily selected. Pupils were involved in planning for new centres and in making decisions regarding daily schedules.
3. The activities in Study A were entirely teacher directed while the environmental design in Study B allowed for self-selection of activities. Pupils were directed to specific centres for structured learning activities for part of the day but they were also given opportunities during activity times to choose their own learning situation.
4. In Study A, all pupils covered the same material at the same time except for reading where one group of pupils was further ahead in the reader being used. Records kept were based on test marks scored by the pupils. In Study B activities were planned to allow for the varying needs of the pupils. Anecdotal records were kept on the academic, social, physical, and emotional growth of the pupils.
5. The pupils in Study A tended to work independently at their individual assignments or as part of a teacher-directed group. In

Study B, the pupils worked in small groups and helped each other, interacting with th peers in learning activities. The social and emotional development of the children was enhanced by utilizing peer teaching, decision making, and responsibility for work and behaviour.

6. In Study A 8.3% of the class time was spent in asking pupils to sit still, be quiet or to pay attention. In Study B, communication between pupils was encouraged and pupils were taught to respect other members of the class by not interfering with their learning.

The teachers in both classrooms were rated as excellent by the Edmonton Public School Board ECS consultant. The environmental design, rather than teacher ability, may have been the major reason for the classroom environment in Study B being more suited to meeting the developmental needs of children in the physical, social, and emotional program dimensions. The descriptors for Study B were the use of learning centres, the participation of children, teachers, and parents in the planning, delivery, and evaluation of the program, the use of reading and guidebooks as references rather than being sequentially followed, the individualization of instruction based on pupils' needs, and parent participation. It would appear that these aspects of the environment had a positive influence on the physical, social, and emotional development of the pupils in the classroom.

Implications

The ECS Branch of Alberta Education has prepared a prospectus For the development of draft policy for ECS/primary articulation (Torgunrud, 1985). Section 4.4 of this prospectus states that

Instructional alternative will stress:

> Extensive opportunity for handling of concrete objects in developing language (communication) competence, emphasizing both individual and social interaction.
>
> Development of knowledge, skills and attitudes from traditional subject areas through learning centres which provide opportunities for exploration, manipulation and investigation, apart from subject barriers.
>
> (Torgunrud, 1985, p. 5)

If a continuous program based on developmental needs of children is to be formed and sustained then the findings of this study may have implications for developing such a program for children from 4 1/2 to 8 years of age. Physical development of gross and fine motor skills through the use of manipulative materials as well as a variety of pencil/paper activities are important for children. Cooperative sharing of ideas and materials offers children opportunities to learn from each other and to develop language as well as social skills. Opportunities to express and explore feelings, to learn to understand oneself and others, and to make personal decisions help children develop emotionally. Since the subject barriers are to give way to an integrated program which emphasizes a balanced interactive approach to the emotional, intellectual, physical, and social developmental needs of children, the findings of this study may have implications for creating such programs through the use of time, space, and materials.

The environmental design of Study B appeared to be more suited to meeting the developmental needs of young children. The pupils were involved in more open structured pencil/paper activities, used manipulatives, had more opportunities for cooperative sharing of ideas

and materials, and participated in more group activities such as singing, drama, and discussions. They were also involved in planning, decision making, and in the exploration of feelings.

This study may, therefore, have the following implications for classroom teachers.

1. The classroom environment must give children opportunities to interact with one another. Children need to share ideas, activities, and materials in order to develop social skills. The use of centres and small group rather than total class instruction may be some positive ways in which to provide students with these opportunities.
2. Children need opportunities to work with manipulatives to develop fine motor skills and concepts. The use of some workbooks and worksheets may need to be delayed and the pupils given more opportunities to work with concrete materials to develop these skills in their early years.
3. Children need to be involved in decision making and in planning their learning. The organization of space, materials, and time in the classroom must give pupils these opportunities. Individualization of instruction based on the needs and interests of students through the use of learning centres would be one approach which would allow for these opportunities.

This study may have further implications for teacher inservices.

1. The use of centres as a teaching method may be conducive to but may not necessarily ensure that developmental needs of children are

being met. This study has focussed on a number of specific developmental needs of children and emphasis should be placed on meeting these needs. Stressing the importance of cooperative sharing of ideas and materials, decision making, use of manipulatives, and open ended activities will give teachers specific goals to incorporate into their programs. Centre based classrooms which enhance the development of the whole child may emerge but the steps and directions outlined for teachers should be much more specific than simply advocating learning centres as a teaching method.

2. Every effort should be made to ensure that kindergarten and primary teachers are highly skilled and trained. A thorough knowledge of child and language development will be crucial if the teacher is to create an environment which will stress the development of the whole child through play and exploratory activities. The teacher must be skilled in observations of children as well as knowledgable in their developmental stages in order to guide them in such areas as cooperative sharing, decision making, and exploration of feelings.

This study may have the following implications for government agencies and school boards.

1. The classroom environment can enhance the social and emotional development of children but a wide range of professional help will need to be made available to aid and support the classroom teacher. Social, emotional, physical, medical, or family problems all affect children's development and help will need to be readily available if children are to develop to their fullest potential in all areas.

2. Children need to be provided with opportunities to explore, manipulate, and investigate. The development of language through social interactions and the handling of concrete objects are also important. Class sizes must be small enough to allow adequate interaction with adults to guide children in this type of learning.

Recommendations for Further Research

This study has described the nature of time spent in physical, social, and emotional developmental activities in two grade one classrooms of different environmental designs. The descriptions were based on data gathered through specific observations of four target pupils in each classroom as well as general observations of the classrooms. The effects of the environment on the three developmental program dimensions were significantly different. On the basis of the findings and results of this study, the following recommendations are made for future research.

1. The preparation, skills, and attitudes of teachers in present grade one, two, and three programs will be a major consideration in examining early childhood classrooms. Consideration of how these teachers view young children and their understanding of how children learn may be necessary in order to understand why some teachers organize in particular ways, and why some teachers change their classroom structures. Such research would provide a basis for planning meaningful inservices for teachers to assist them in providing programs based on the developmental needs of children.
2. The environmental design of the classroom can affect the physical, social, and emotional development of children. Wasserman (1974)

found that the organization of time, space, and materials in the classroom also affected the attitudes of children toward learning. If the environmental design of the classroom can affect attitudes as well as physical, social, and emotional development of children, further research is needed to determine how academic learning is affected by changes in the use of time, space, and materials.

3. Conflict and wait time were significantly different in the two classrooms observed for this study. Further research in this area is needed to determine the effects of conflict and wait time on academic learning as well as on the social and emotional development of young children.
4. Teachers create different environmental designs in their classrooms. Research is needed to determine how these arrangements of time, space, and materials are related to the teachers' philosophies of how children learn.
5. Young children need to explore with materials and relationships in order to learn. At what age are children ready to move to a more abstract form of education? Research might determine at what level large group instruction becomes effective.

Conclusions

Chapter I of this study indicated some concerns which educators and researchers have had during the past thirty years regarding the experiences of young children entering school. The social and emotional adjustment problems of many children appear to be affecting their academic achievement. Furthermore, an increasing number of writers are expressing the concern that opportunities for children to

develop physically, socially, and emotionally in our society are being hampered by pressures arising from technology and changes in the structure of the family unit (Elkind, 1984; Postman, 1982; Winn, 1983). At the same time, however, there is a movement to return to the basics in education. The concern that children cannot read or perform basic mathematical functions indicates that children may not be achieving academically either. While educators attempt to deal with all of these problems, Naisbitt (1982) urges us to consider the fact that the industrial base of our society is being replaced by a new information-electronics economy and that we must devote our energies to solving the problems and developing the opportunities of this new economy. The question arises whether children's needs can best be met by returning to the basics or by moving to new approaches to help children grow up in our society.

Chapter II outlined some basic needs of young children and how they develop physically, socially, and emotionally. Although society may have moved from an industrial base to an information base, and the structure of the family unit may be altered, the time and experiences which young children need in order to grow and develop have not changed. Children still need to use their minds and bodies to explore, discover, and learn. The philosophy of ECS in Alberta (Alberta Education, 1984) recognizes these facts and gives direction for establishing programs based on the developmental needs of children. Is it possible in our society to meet both the challenges of the new information explosion as well as the needs of young children who still need time, space, and appropriate materials to develop to their fullest potential?

This study has suggested that the use of space, time, and materials in the classroom can affect the opportunities which children have to develop physically, socially, and emotionally. Wasserman (1974) suggested that the environmental design of the classroom affects the attitudes of children toward learning and school. Goodlad (1984) discovered that young adults remembered about schools the learnings which creative teachers had made meaningful to their present lives. He suggested that "we would be well advised, it appears, to look less to test scores in determining the quality of educating in our schools and more to what students are called upon to do" (Goodlad, 1984, p. 15). The environmental designs of our classrooms may be a key to providing children time, space, and materials to learn and develop while at the same time giving them opportunities to learn through experiences which are meaningful to their lives. The opportunities students have to plan their learning, to make decisions, to interact with others, to use concrete materials, and to be involved in self-directed activities will not only help them to develop physically, socially, emotionally, intellectually, and creatively, but will also allow their learning to be meaningful in the context of the larger society in which they live and grow. The involvement of pupils, parents, and teachers in the planning, delivery, and evaluation of the school programs will ensure that programs are suited to meeting the needs of the students. The implications, recommendations, and conclusions of this study all seek to encourage the creation of environmental designs in classrooms which will meet developmental needs of children as well as give them the necessary skills to function in a changing society. As our world becomes flooded with information which can be retrieved instantly

through the use of computers, the key to educating our children may lie not in new curricula or more stringent tests but rather in how space, time, and materials in classrooms are used to help children develop their decision making and planning skills so that they can use the information and technology available to them. The cooperative sharing of ideas and materials is an ability which is essential in a world where highly specialized training and occupations exist. In our complex world, schools must consider the physical, social, and emotional needs of pupils as well as the academic skills. It appears that the environmental designs of classrooms can influence how well students learn and become prepared for adult life.

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APPENDIX 1

LETTER TO PARENTS

January 25, 1985

Dear Parents,

During the week of January 28th we will be observing in your child's classroom. We are presently enrolled in a Master of Education program at the University of Alberta and this practical classroom experience will enhance our studies.

We look forward to the time we will spend with _____ and the grade one pupils at _____ Elementary School.

Yours sincerely,

Mary Neely

Kae Neufeld

APPENDIX 2

INTER-OBSERVER AGREEMENT

Samples of anecdotal observations which were considered to be in agreement for classification into the categories of pupil behaviour used in this study.

Researcher 1: Target pupil sitting in desk, waiting for teacher who is getting ready to give instructions.
Researcher 2: Target pupil sitting in desk, looking around the room while teacher greets students and then talks to 9 o'clockers.

Researcher 1: Target pupil sitting in desk, playing with scissors while teacher is giving instructions to the other group.
Researcher 2: Target pupil sitting in desk, playing with scissors and eraser waiting while teacher gives directions to 9 o'clockers.

Researcher 1: Target pupil sitting in desk, with pencil in hand watching teacher write a pupil's sentence on the blackboard.
Researcher 2: Target pupil sitting in desk, on leg, holding pencil, watching teacher printing another student's sentence on the blackboard.

Researcher 1: Target pupil sitting in desk, writing a sentence. Says "I know." Teacher comes over and checks work. Marks it right. Target pupil waves hands, saying "Yeah. I got one right." Whole class in desks.

Researcher 2: Target pupil printing in notebook. Says to teacher "I know." Teacher corrects work. "Yeah!" Claps hands. "I knew I got it right."

Researcher 1: Target pupil begins to work again, writing in book and checking from the blackboard. Shows researcher 2 his work.

Researcher 2: Target pupil sings a song and copies from the blackboard. Shows me his work.

Researcher 1: Target pupil comes to the back table with a pencil, jumps up and down. Sits in chair playing with pencil, waiting for the teacher.

Researcher 2: Target pupil moves to back table, talking out loud to no one in particular. Sits at table, looks around, claps hands, plays with pencil while waiting.

Researcher 1: Target pupil sitting in desk, holding up blocks for teacher to see. Teacher explaining 1 + 2 and 2 + 1 equals 3. Children making number stories with different colored blocks.

Researcher 2: Target pupil sitting in desk, holding up a group of blocks made at the direction of the teacher, 2 + 1 = 3, 1 + 2 = 3.

Researcher 1: Target pupil sitting on the floor playing memory card game with 4 other pupils. Pupils chat about turns and game rules. Teacher works with individuals at the front of the room.

Researcher 2: Another game has begun. Two additional pupils have joined. The pupils dialogue re the game structure. Principal has entered. Pupils take no note of her.

Researcher 1: Target pupil standing beside another pupil's desk, asking for eraser. Goes to desk and then returns eraser to pupil. Whole class in desks writing DEAR on bookmarks. Teacher circulating to help pupils with reading.

Researcher 2: Target pupil over at another pupil's desk, sharing ideas (dialogue) re: eraser -> Pupils have been asked by teacher to print DEAR on cards. All pupils in desks, reading books given to them by teacher.

Researcher 1: Target pupil sitting in desk, looking at book. Whole class activity. Teacher handing out cards for pupils.

Researcher 2: Target pupil sitting in desk, flipping through a book, watching teacher pass out cards.

APPENDIX 3

DAILY SCHEDULES

STUDY A

	Monday	Tuesday	Wednesday	Thursday	Friday
8:45 - 9:45	<---------Language Arts - Early Shift---------->				
9:45 - 10:00	<--------------------Music--------------------->				
10:00 - 10:30	Phonics	Science	Phonics	Phonics	Science
10:30 - 10:45	<-------------------Recess--------------------->				
10:45 - 11:15	Math	Math	Math	Literature	Math
11:15 - 11:45	Math	Gym	Math	Math	Library
11:45 - 1:00	<--------------------Noon---------------------->				
1:00 - 1:15	<-----------------Printing--------------------->				
1:15 - 2:00	Soc. St.	Soc. St.	Art	Soc. St.	Gym/Health
2:00 - 2:15	<--------------------Story--------------------->				
2:15 - 2:30	<-------------------Recess--------------------->				
2:30 - 3:30	<---------Language Arts - Late Shift----------->				

STUDY B

8:45 - 9:00	Opening Exercises
9:00 - 9:30	Gym
9:30 - 10:30	Language Arts
10:30 - 10:45	Recess
10:45 - 11:55	Math Activities
11:55 - 1:10	Noon
1:10 - 1:30	Circle Time - Language Arts - Show and Share
1:30 - 2:15	Activity Time
2:15 - 2:30	Recess
2:30 - 3:00	Social Studies
3:00 - 3:30	Special Activities

APPENDIX 4

PROGRAM DIMENSIONS

The following descriptions outline the ECS program dimensions as they were used to categorize the data gathered through classroom observations.

Physical Development

Gross motor: Skills that involve large muscle activity and are present in movements such as crawling, walking, running, leaping, jumping, hopping, galloping, skipping and climbing.

Fine motor: Skills that involve muscles in the arms, hands and fingers. They include finger speed, arm steadiness, arm and hand precision, finger and hand dexterity and are present in activities that involve the manipulation of small materials.

a) Pencil/paper activities:

Activities using pencil or crayons.

b) Manipulatives:

Activites including cutting, pasting, sorting, folding or using small equipment such as blocks or tiles.

Sensory awareness: Using the senses of taste or smell.

Social Development

Cooperative sharing: Working together with another pupil, or a group of pupils with or without the teacher present.

a) Cooperative sharing of ideas, planning, activities, dialogue. Interactions related to learning.

b) Cooperative sharing of materials such as art supplies, blocks, computer. Pupils share the materials while working on their individual assignments.

c) Cooperative sharing in a group activity such as physical education, games, drama, singing.

d) Being part of a discussion group either as a speaker or listener. Pupils are given opportunities to express their own ideas.

Receiving information: Pupils are being taught specific information or skills.

a) By teacher, parent, listening centre, film.

b) By another pupil or pupils.

c) By reading/looking at a book.

d) By being read a story.

Receiving directions, help, asking for help or direction, announcements from teacher or other adult. Pupils are given information regarding organizational matters or receiving clarification for assignments.

Giving instructions, information, help, answering. Pupils share information with the rest of the class.

Dealing with conflict:

a) Pupil-pupil conflict with teacher intervention.

b) Teacher-pupil conflict with target pupil involved as an individual or as part of a group.

c) Target pupil wait time while teacher deals with conflict in which the target pupil is not involved.

Wait time: The pupil waits for the next activity:

a) In a learning situation: The pupil may be part of a group where the activities are related to learning but the pupil waits for a turn. The pupil has been directed by the teacher to be part of the group. Some examples are; the teacher puts the date on the calendar, listens to pupils count, or writes something on the blackboard. Pupil is asked to sit quietly but is not given directions to be personally involved in the activity in any way.

b) Waiting for next activity: The pupil is either waiting with the class in situations such as waiting in line to go to the gymnasium, waiting as a group while the teacher works with another part of the class, or waiting as an individual while other members of the class are finishing an activity.

Interactions/activities not directly related to expected learning. Pupils may be involved in dialogue or activities which are different from the ones in which the teacher asked them to participate.

Emotional Development

Expresses or explores feelings: Target pupil expresses feelings or is part of the group where feelings are being discussed.

Making personal decisions: Target pupil makes a decision regarding own learning activity or partakes in group decision making.

Praise: The target pupil is praised as an individual or is part of a group being praised.

a) By the teacher.

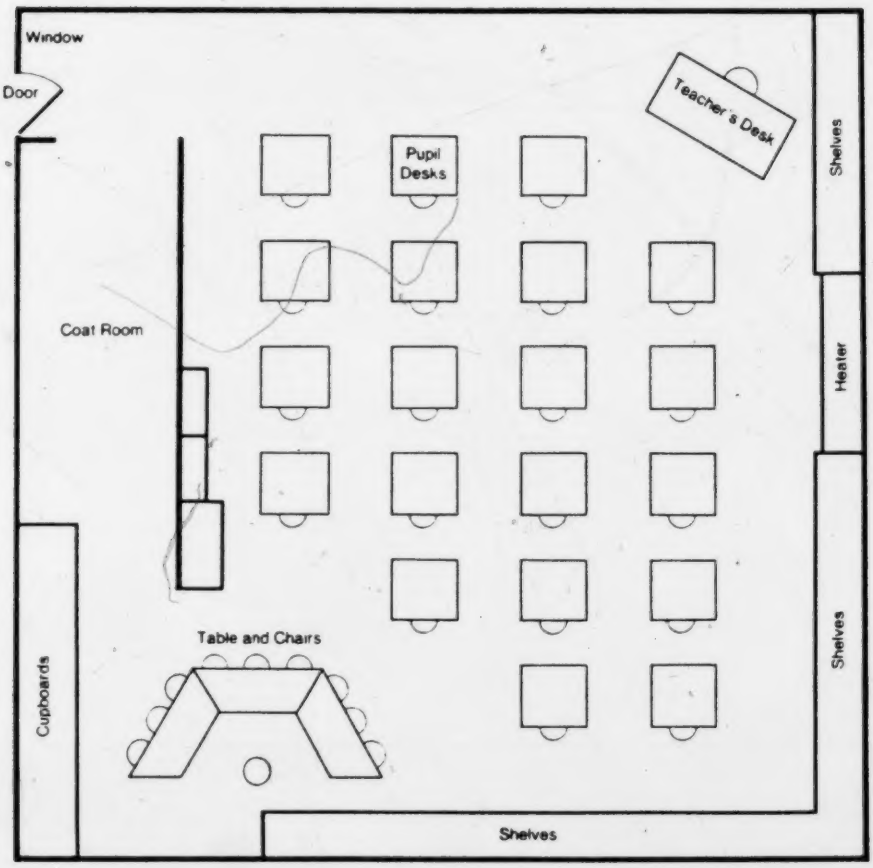
b) By another pupil.

Other Activities

Include such activities as going to the bathroom, getting coats on for recess, cleaning up.

APPENDIX 5

CLASSROOM FLOOR PLAN – STUDY A



APPENDIX 6

CLASSROOM FLOOR PLAN - STUDY B